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Notification
The 30th April, 2021

Regulation No. HERC/53/2021: - The Haryana Electricity Regulatory Commission, in exercise of the powers conferred on it by section 181 of the Electricity Act 2003 (Act 36 of 2003) and all other powers enabling it in this behalf, after previous publication, makes the following regulations: -

Chapter – 1
General

1. Short title, commencement, extent of application and interpretation. –

(1) These Regulations may be called the Haryana Electricity Regulatory Commission (Terms and Conditions for determination of Tariff from Renewable Energy Sources, Renewable Purchase Obligation and Renewable Energy Certificate) Regulations, 2021.

(2) These regulations shall come into force on the date of their publication in the Haryana Government Gazette.

(3) These regulations shall extend to all grid connected renewable energy projects and obligated entities in the State of Haryana.

2. Definitions. –

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

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

(2) 'Auxiliary energy consumption' or 'AUXe' 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 gross energy generated at the generator terminal of the generating station during the period;

(3) '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, deoiled cakes, etc); wood produced in dedicated energy plantations or recovered from wild bushes/weeds whichever permissible; and the wood waste produced in some industrial operations;

(4) 'Capital cost' means the capital cost as defined in the relevant sub regulations of these Regulations;

(5) 'Central Agency' means the agency operating the National Load Dispatch Centre or such other agency as the Central Commission may designate from time to time;

(6) "Certificate" means the renewable energy certificate issued by the Central Agency in accordance with the procedures prescribed by it and under the provisions specified in the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issue of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2009 as amended from time to time;

(7) 'Central Electricity Regulatory Commission (CERC)' means the Central Electricity Regulatory Commission referred to in sub-section (1) of section 76 of the Act;

(8) 'Commission' means the Haryana Electricity Regulatory Commission;

(9) 'Conduct of Business Regulations' means the Haryana Electricity Regulatory Commission (Conduct of Business) Regulations, 2019 as amended from time to time;

(10) 'Control Period or Review Period' means the period during which the norms for determination of tariff and other provisions specified in these regulations shall remain valid;

(11) 'Floor Price' means the minimum price determined by the Central Commission in accordance with these regulations at and above which the renewable energy certificate can be traded in the power exchange;

(12) 'Forbearance price' means the ceiling price as determined by the Central Commission in accordance with the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issue of Renewable energy

Certificate for Renewable Energy Generation) Regulations, 2010, as amended from time to time, within which the Certificate can be traded in power exchange;

(13) 'Gross calorific value' or 'GCV' in relation to a fuel used in 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;

(14) 'Gross station heat rate' or 'GHR' means the heat energy input in kCal / kWh required to generate one kWh of electrical energy at generator terminals of a renewable energy generating station;

(15) 'Hybrid Solar Thermal Power Plant' means the solar thermal power plant that uses other forms of energy input sources along with solar thermal energy for electricity generation, and wherein not less than 75% of electricity is generated from solar energy component;

(16) '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/Solar Inverter in MW / MVA), as the case may be;

(17) 'Inter-connection Point' shall mean interface point of renewable energy generating facility including Waste to Electricity projects with the transmission system or distribution system,

a) in relation to wind energy projects, Solar Photovoltaic Projects, renewable hybrid energy projects and renewable energy with storage Projects, inter-connection point shall be line isolator on outgoing feeder on High Voltage (HV) side of the pooling sub-station;

b) in relation to small hydro power, biomass power, Waste to Energy projects and non fossil fuel based cogeneration power projects and Solar Thermal Power Projects, the inter-connection point shall be line isolator on outgoing feeder on HV side of generator transformer;

Whereas, 'Pooling Sub-Station' means a Sub-Station consisting of a step-up transformer and associated switchgear to the Low Voltage (LV) side of which several Wind or Solar Energy Generators are connected.

Provided that, where a Generating Unit is connected through a common or an individual feeder terminating at a Sub-Station of a Distribution Licensee or the State Transmission Utility, such Sub-Station shall be treated as the Pooling Sub-Station for such Wind or Solar Energy Generator for the purposes of these Regulations.

(18) 'Non firm power' means the power generated from renewable sources, the hourly variation of which is dependent upon nature's phenomenon like sun, cloud, wind, etc., that cannot be accurately predicted;

(19) "Levellised Tariff" means the tariff calculated by carrying out levelisation for 'useful life' of each technology considering the discount factor for time value of money.

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

(21) "Municipal Solid Waste" means and includes commercial and residential wastes generated in a municipal or notified area in either solid or semi solid form excluding industrial hazardous wastes but including treated bio-medical waste;

(22) 'Non fossil fuel based co-generation' means 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 including Bagasse.

(23) 'Obligated entity' means an entity in the State of Haryana which is mandated to fulfill renewable purchase obligation under these Regulations and include the following:-

i) Distribution licensee(s)

ii) Open Access consumers including short term open access consumers, and

iii) Fossil Fuel based Captive Power Plant of 5 MW and above including Fossil Fuel based Co-generation captive plant of 5 MW and above.

(24) '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;

(25) "Power Exchange' means any exchange operating as the power exchange for electricity as approved by the CERC;

(26) 'Preferential tariff' or "Feed in Tariff" means the tariff fixed by the Commission for sale of energy from a generating station based on renewable energy sources to a distribution licensee;

(27) 'Project' means a generating station or the evacuation system upto inter-connection point, as the case may be, and in case of a small hydro generating station includes all components of generating facility such as dam, intake water conductor system, power generating station and generating units of the scheme, as apportioned to power generation;

(28) 'Renewable Energy' means the electricity generated from renewable energy sources;

(29) 'Renewable Energy Power Plants' means the power plants other than the conventional power plants generating electricity from renewable energy sources;

(30) 'Renewable Energy Sources' means renewable sources such as small hydro, wind, solar including its integration with combined cycle, biomass (including Bagasse), bio fuel, urban or municipal waste and other such sources as approved by the MNRE;

(31) 'Small Hydro' means Hydro Power projects with a station capacity up to 25 MW or as specified in the National Tariff Policy or by the Central Government from time to time;

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

(33) '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;

(34) '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;

(35) 'Solar PV power' means the Solar Photo Voltaic power project that uses sunlight for direct conversion into electricity through Photo Voltaic Cells;

(36) 'Solar Thermal power' means the Solar Thermal power project that uses sunlight for conversion of heat energy into electricity through Concentrated Solar Power technology based on either line focus or point focus principle;

(37) "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;

(38) 'State agency' means the agency in the State of Haryana to be designated by the Commission to act as the agency for accreditation and recommending the renewable energy projects for registration and to undertake functions under these regulations;

(39) 'Tariff period' means the period for which tariff / price for sale of power is determined by the Commission on the basis of norms specified in these Regulations;

(40) 'Useful Life' in relation to a unit of a generating station including evacuation system shall mean the following duration from the date of commercial operation (COD) of such generation facility, namely:

(a) Wind energy power project 25 years
(b) Biomass power project, non-fossil fuel cogeneration 20 years
(c) Small Hydro Plant 40 years
(d) Solar PV/Solar thermal power plants 25 years
(e) Processed Municipal Solid Waste (MSW) WtE based power projects – 20 years
(f) Biomass gasifier power plants 20 years
(g) Biogas power plants 20 years

(h) Renewable hybrid energy project - Minimum of the Useful Life of different RE technologies combined for Renewable Hybrid Energy Project for Composite Tariff as specified under Regulation 57.

(i) Renewable energy with storage project - Same as Useful Life of project assuming that there is no storage

(41) 'Year' means a financial year.

(2) All other expressions used herein but not specifically defined herein but defined in the Act shall have the meaning assigned to them in the Act. The other expressions used herein but not specifically defined in the regulations or in the Act but defined under Haryana Electricity Reform Act, 1997 (Act 10 of 1998) or the Indian Electricity Grid Code or the Haryana Grid Code or the Haryana Electricity Regulatory Commission (Terms and Conditions for determination of Tariff for Generation, Transmission, Wheeling and Distribution & Retail Supply under Multi Year Tariff) Regulations, 2019, as amended / reenacted from time to time, shall have the meanings assigned to them respectively in the Haryana Electricity Reform Act, 1997 (Act 10 of 1998) or the Indian Electricity Grid Code or the Haryana Grid Code or any other relevant Regulations in vogue , provided that such definitions in the Haryana Electricity Reform Act, 1997 are not inconsistent with the provisions of the Electricity Act, 2003;

3. **Eligibility Criteria. –** For the purpose of these regulations, a project shall be treated as renewable energy power project, as acknowledged by MNRE only, meeting the following criteria:-

(a) Wind power project – located at the wind sites having minimum annual mean Wind Power Density (WPD) of 200 Watt/m2 measured at hub height of 100 meters and using new wind turbine generators;

(b) Small hydro project – located at the sites approved by State Nodal Agency / State Government / self identified sites using new plant and machinery, and installed power plant capacity to be lower than or equal to 25 MW at single location.

(c) Biomass power project – Biomass power projects using new plant and machinery using biomass fuel sources.

(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 that uses non-fossil fuel input, including bagasse, 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. the boiler feed pump and the FD/ID fans). 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.

(e) Processed Municipal Solid Waste based WtE power projects – The project shall qualify to be termed as Municipal Solid Waste based WtE power projects, if it is using new plant and machinery and using Municipal solid waste as fuel source for generation of electricity.

(f) Solar PV and Solar Thermal Power Projects – Based on Technologies approved by MNRE / HAREDA.

(g) Biomass Gasifier Power Projects - The projects shall qualify as gasifier based power project provided it is using new plant and machinery and having a grid connected system that uses 100% syngas/producer gas engine with MNRE approved gasification technology and shall use non fossil fuel as approved by MNRE.

(h) Biogass Power Projects - The projects shall qualify as biogas based power project provided it is using new plant and machinery and having a grid connected system that and uses 100% biogas fired engine with MNRE approved technology.

(i) 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.

(j) Renewable energy with storage project – The renewable energy project including renewable hybrid energy project that uses, partly or fully, renewable energy generated from such project to store energy into storage facility which is connected at the same point of interconnection as the renewable energy project.

Explanation:

The necessity of new plant and machinery shall be applicable where tariff is determined by the Commission under Section 62 of the Act as well as procurement of power by the Distribution Licensee(s) under Section 63 of the Act in case the bidding documents / guidelines so provides. The dispensation shall include the RE Projects where capital subsidy is claimed by the project developer.

Chapter – 2

Norms

4. **Control Period or Review Period. –** The Control Period for the purpose of tariff determination under these Regulations shall be from the FY 2021-22 to the FY 2024-25.

Provided that the benchmark capital cost and tariff for Solar PV rooftop, ground mounted, canal based / Water Works solar projects, wind power, small hydro shall be determined on case specific basis only.

Provided also that the revision in Regulations for next Control Period shall be undertaken at least six months prior to the end of the first 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 and the Control Period shall be deemed to have been extended up to the date of notification of the next Control Period.

5. **Tariff Period. –**

(1) The Tariff Period for Renewable Energy power projects shall generally correspond to their respective project life or as may be agreed upon in the PPA.

(2) Tariff period under these Regulations is for Renewable Energy Power Plants with entirely new plant and machinery. The first year tariff shall be applicable from the CoD of the project and shall continue for 12 months from the CoD and thereafter the tariff for the second year shall be applicable on year to year basis i.e. for first 12 months from CoD, first year tariff shall be applicable, then for next twelve months second year tariff shall be applicable and so on and each period of such 12 months shall be termed as the tariff year.

(3) Tariff determined as per these Regulations shall be applicable for Renewable Energy power projects, only for the duration of the Tariff Period as stipulated under Regulation 5(1).

6. **Project Specific tariff. –**

(1) Subject to the "Scope and Extent of application" of these Regulations, the project specific tariff, on case to case basis, may also be determined by the Commission for the following types of projects:

(a) Processed Municipal Solid Waste (WtE) Projects
(b) Poultry litter / Cow dung etc.
(c) small / micro hydro power projects of 25 MW and below
(d) Renewable energy with storage projects
(e) Biomass project other than that based on Rankine Cycle technology application with water cooled / air cooled condenser.
(f) Non-fossil fuel based co-generation project
(g) Any other new renewable energy technologies that may be approved by MNRE i.e. Solid oxide fuel cell (SOFC) etc.

(2) 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 by the Commission.

Provided that the financial and operational norms as specified in these Regulations, shall be ceiling norms while determining the project specific tariff.

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

(3) <u>Scope and extent of application:</u>

These Regulations shall apply to the RE Power Projects set-up / to be set – up in Haryana and where the tariff is determined by the Commission u/s 62 of the Act for Grid Connected RE Projects up to an installed capacity of 2 MW except the general provisions for banking, RPO, Late Payment Surcharge / rebate etc. applicable for all concerned.

Provided that the Discoms/HPPC shall endeavor to purchase all electricity through competitive bidding route in accordance with the provisions of Section 63 of the Electricity Act, 2003

Provided where tariff is adopted by the Commission under section 63 of the Act, the terms and conditions of the Guidelines as mentioned in section 63 of the Act and the bidding documents thereto shall prevail.

Provided HAREDA shall endeavour to promote better and efficient usage of biomass disposal such as setting up of Compressed Bio Gas (CBG), ethanol, bio fuel, Green Hydrogen etc., so as incineration of biomass/bio waste/municipal waste even under controlled environment for electricity generation be minimized.

7. **Petition and proceedings for determination of tariff. –**

(1) The Commission shall determine the indicative tariff on the basis of suo-motu petition at least six months in advance at the beginning of each year of the Control period for renewable energy technologies for which norms have been specified under the Regulations.

(2) A petition for determination of project specific tariff shall be accompanied by such fee as may be specified in the HERC Fee Regulations in vogue and shall be accompanied by the following:-

a) Information in forms 1.1, 1.2, 2.1 and 2.2 as the case may be, and as appended to these 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) Following documents in case of petition for determination of project specific tariff by renewable energy projects, where tariff from such renewable energy sources is generally determined through 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.
iii. Comparative details showing that the tariff proposed is aligned with the prevalent market conditions.

f) Any other information that the Commission may require the petitioner to submit.

(3) The proceedings for determination of tariff shall be in accordance with the HERC (Conduct of Business) Regulations 2019, as amended from time to time.

8. **Tariff Structure. –**

(1) The tariff for renewable energy technologies shall be single part tariff consisting of the following fixed cost components:-

(a) Return on equity capital;

(b) Interest on loan capital;

(c) Depreciation;

(d) Interest on working capital including margin money;

(e) Operation and maintenance expenses;

Provided that for renewable energy technologies having fuel cost component, like biomass power projects and non-fossil fuel based cogeneration, single part tariff with two components, fixed cost component and fuel cost component, shall be determined. The fuel cost component may be subjected to escalation/de-escalation for computing levellised generic tariff for entire useful life of the project as provided in these Regulations.

Provided that MAT/Corporate Tax shall be a pass through on submission of supporting documents. The same shall be limited to applicable tax rate on the normative return on equity.

9. **Tariff Design. –**

(1) The generic tariff, for the control period as per these Regulations, shall be determined, for the entire tariff period/useful life of the project.

Provided that for renewable energy projects having single part tariff with two components viz. 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 annual basis and the same shall also be prospectively (i.e. from the date of the Order) applicable for the projects commissioned during the previous control periods.

The State Nodal Agency i.e. HAREDA shall collect the relevant data on fuel cost and submit the same to the Commission on a half yearly basis.

(2) For the purpose computation of levellised tariff, the discount factor equivalent to weighted average cost of capital {Term Loan (R) and Return on Equity (RoE)} shall be considered i.e. {(R x 0.7) + (RoE x 0.3)}.

(3) The above principles shall also apply for the determination of project specific tariff under these Regulations.

10. Dispatch principles for electricity generated from Renewable Energy Sources. –

(1) All renewable energy power plants, except for Biomass power plants of installed capacity 10 MW and above, shall be treated as 'MUST RUN' power plants. Biomass power with installed capacity of 10 MW and above shall be subjected to scheduling and dispatch as specified under Haryana Grid Code and other relevant regulations including amendments thereto.

(2) The scheduling and deviation settlement for solar and wind power shall be as per the Haryana Electricity Regulatory Commission (Forecasting, Scheduling and Deviation Settlement for Solar and Wind Generation) Regulations, 2019 / Haryana Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2019, as may be amended from time to time.

Chapter – 3

Financial Principles

11. **Capital Cost**. **–** The norms for the Capital cost as specified in the subsequent technology specific chapters shall be inclusive of land cost, pre-development expenses, all capital work including plant and machinery, initial spares, civil work, erection and commissioning, financing and interest during construction, and evacuation infrastructure up to the 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, including DPR, Lender's Engineer Report and justification (item-wise) for any time/cost over-run.

Provided further that in case where land for the project is acquired on lease basis, the cost of land to be considered as part of capital cost shall be determined as per the Land Lease Agreement (s).

12. **Debt Equity Ratio**. **–**

(1) For generic tariff to be determined, based on suo motu petition, the normative debt equity ratio shall be 70: 30.

(2) For Project specific tariff, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan.

Provided that where equity actually deployed is less than 30% of the capital cost, the actual 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 also that debt equity ratio shall be considered after deducting the amount of grant or capital subsidy received for the project for arriving at the amount of debt and equity.

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, subject to the ceiling limit of 30%, only if such premium

amount and internal resources are actually utilised for meeting the capital expenditure of the renewable energy project. The un-discharged liabilities, if any, shall be reduced from the capital cost.

13. Loan and Finance Charges. –

(1) For the purpose of determination of tariff, loan tenure of 13 years shall be considered.

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

(b) For the purpose of computation of tariff, the normative interest rate shall be considered as the average Marginal Cost of funds-based lending rate (MCLR) (one-year tenor) of SBI prevailing during the last six months plus a margin of up to 200 basis points i.e. 2%.

(c) 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.

14. **Depreciation. –**

(1) The value base for the purpose of depreciation shall be the Capital Cost of the asset admitted by the Commission. The salvage value of the asset shall be considered as 10%.

Provided that, no depreciation shall be allowed to the extent of grant or capital subsidy received for the project. Provided further that land is not a depreciable asset, and hence, its cost shall be excluded while computing 90% of the original cost of asset eligible for depreciation.

(2) Depreciation per annum shall be based on 'Differential Depreciation Approach' over loan tenure and period beyond loan tenure over useful life computed on 'Straight Line Method'. The depreciation rate for the first 13 years of the Tariff Period shall be 5.38% per annum charged on the capital cost and the remaining depreciation (i.e. 90% of the capital cost as reduced by the depreciation charged

in first 13 years) shall be spread over the remaining useful life of the project from 14th year onwards.

(3) Depreciation shall be chargeable from the first year of commercial operation.

Provided that in case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

15. **Return on Equity**. **–**

(1) The value base for computing equity eligible for return shall be lower of the two either 30% of the capital cost or actual equity (in case of project specific tariff determination) as determined under these Regulations.

(2) The normative Return on Equity shall be as under:-

a) 14% per annum calculated on normative Equity Capital.

b) MAT/Corporate Tax applicable shall be considered as pass through.

Provided that the applicable MAT / Corporate Tax shall be separately invoiced as per the actual paid at the rate as declared by the Income Tax Department. The Generator shall raise the bill for reimbursement of MAT / Corporate Tax applicable on Return on Equity in 12 equal installments which shall be payable by the beneficiaries.

16. **Interest on Working Capital. –**

(1) The Working Capital requirement in respect of wind energy projects, small hydro power, solar PV and Solar thermal power projects and Processed Municipal Solid Waste (WtE) projects shall be computed in accordance with the following :-

a) Operation & Maintenance expenses for one month;

b) Receivables equivalent to 2 (two) months of fixed and energy charges for sale of electricity calculated on the normative CUF / PLF;

c) Maintenance spare @ 15% of operation and maintenance expenses.

(2) The Working Capital requirement in respect of biomass power projects (Rankine Cycle Technology), Biomass Gasifier / Bio gas based projects and bagasse / non-fossil fuel based co-generation projects shall be computed as under:-

a) Fuel costs for four months at normative PLF;

Provided that fuel cost for six months at normative PLF shall be provided for projects using Paddy Straw as single fuel.

b) Operation & Maintenance expense for one month;

c) Receivables equivalent to 2 (Two) months of fixed and variable charges for sale of electricity calculated on the normative PLF;

d) Maintenance spare @ 15% of operation and maintenance expenses.

(3) Interest on Working Capital, for the purpose of tariff determination, shall be computed at the average Marginal Cost of funds based lending rate (MCLR) (one year tenor) of SBI prevailing during the last available six months plus an appropriate margin not exceeding 200 basis points i.e. 2%.

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

17. **Operation and Maintenance Expenses. –**

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

(2) Operation and maintenance expenses shall be determined for the Tariff Period based on normative O&M expenses specified in these Regulations for the first Year of the Control Period.

(3) Normative O&M expenses allowed during the first year of the Control Period under these Regulations shall be escalated at the rate of 2.93% per annum over the Tariff Period.

18. Rebate. –

(1) For payment of bills of the generating company through letter of credit, a rebate of 2% shall be allowed.

(2) Where payments are made other than through letter of credit within a period of 30 days of presentation of bills by the generating company, a rebate of 1% shall be allowed.

Explanation: In case of computation of 30 days, the number of days shall be counted consecutively without considering any holiday. However, in case the last day or 30th day is official holiday, the 30th day for the purpose of rebate shall be construed as the immediate succeeding working day.

19. Late payment surcharge. –

(1) Late Payment Surcharge shall be payable on the payment outstanding after the due date at the base rate of Late Payment Surcharge applicable for the period for the first month of default.

(2) The rate of Late Payment Surcharge for the successive months of default shall increase by 0.5 percent for every month of delay provided that the Late Payment Surcharge shall not be more than 3 percent higher than the base rate at any time:

Provided that the rate at which Late Payment Surcharge shall be payable shall notbe higher than the rate specified in the agreement, if any.

Provided further that, if a distribution licensee has any payment including Late Payment Surcharge outstanding against a bill after the expiry of seven months from the due date of the bill, it shall be debarred from procuring power from a power exchange or grant of short-term open access till such bill is paid.

Whereas;

"base rate of Late Payment Surcharge" means the marginal cost of funds based lending rate (MCLR) for one year of the State Bank of India, as applicable on the 1st April of the financial year in which the period lies, plus five percent and in the absence of marginal cost of funds based lending rate, any other arrangement that substitutes it, which the Central Government may, by notification, in the Official Gazette, specify;

Provided that if the period of default lies in two or more financial years, the base rate of Late Payment Surcharge shall be calculated separately for the periods falling in different years.

"due date" means the date by which the bill for the charges for power supplied by the generating company are to be paid, in accordance with the Power Purchase Agreement, Power Supply Agreement, as the case may be, and if not specified in the agreement, forty-five days from the date of presentation of the bill by such generating company.

"Late Payment Surcharge" means the charges payable by the distribution company to a generating company for power procured from it on account of delay in payment of monthly charges beyond the due date.

20. Sharing of CDM Benefits. –

(1) The proceeds of carbon credit from approved CDM project, after deduction of expenses incurred by the generating company for registration and approval of the project as CDM project shall be shared between generating company and beneficiaries concerned in the following manner:-

a) 100% of the gross proceeds on account of CDM benefit to be retained by the project developer in the first year after the date of commercial operation of the generating station i.e. 12 months from CoD;

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.

Provided that in case the Concession Agreement or PPA has specific provision regarding sharing of CDM benefits, the same shall be applicable in such cases.

21. Sharing of Other Income – Other Income i.e. proceeds from sale of bio-fertilizer/bye products etc. shall be shared in equal proportion, by the generating company and the beneficiaries.

22. Subsidy or incentive by the Central / State Government. – The Commission shall take into consideration any incentive or subsidy offered by the Central or State Government, available across the board to all the generating company, for the renewable energy power plants while determining tariff under these Regulations.

Provided, where there is no up-front subsidy/grant/incentive, the tariff shall be worked out without subsidy/grant/incentive.

Provided further that any such assistance received by the generator shall be immediately passed on to the beneficiary.

Any grant, subsidy or incentives availed by renewable energy project, which is not considered at 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.

23. Taxes and Duties. – Tariff determined under these regulations shall be exclusive of taxes and duties as may be levied by the appropriate Government. Any tax / duty levied by the appropriate Government shall be allowed as pass through on actual incurred basis and should have been actually paid to the authority (ies) concerned.

Chapter – 4

Technology specific parameters for Wind Energy

24. **Capital Cost. –**

(1) The capital cost for wind energy project shall include land cost Wind turbine generator including its auxiliaries, site development charges and other civil works, transportation charges, evacuation cost up to inter-connection point, financing charges and IDC. Provided in case of land obtained on lease, cost of land shall be taken as per lease agreement.

(2) Given the limited potential for setting up wind energy projects in Haryana, the Commission, on an application received from a prospective wind power generator / developer and willingness of the Disocoms / HPPC to purchase such power, shall determine capital cost for wind energy projects, O&M expenses and tariff based on the market trends prevailing during the relevant year w.r.t. scheduled CoD of such projects on case specific basis only.

25. **Capacity Utilization Factor**. **–**

(1) CUF norms for the control period shall be as follows:-

Annual Mean Wind Power Density (W/m2)	**CUF**
Up to 220	22%
221- 275	24%
276- 330	28%
331- 440	33%
441 +	35%

Provided that the number of hours for calculation of CUF shall be 8766 hours.

(2) The annual mean wind power density specified above shall be measured at 100 meter hub-height.

(3) For the purpose of classification of wind energy project into particular wind zone class, the State-wise wind power density map prepared by Centre for Wind Energy Technology (C-WET) / MNRE / NIWE , shall be considered.

Provided that the Commission may by notification amend the schedule from time to time, based on MNRE guidelines / NIWE for wind measurement or by the private developer.

Provided in the case of wind measurement data submitted by wind power developer the same shall be acceptable in case it is validated by NIWE.

Chapter – 5
Technology specific parameters for Small Hydro Project

26. **Capital Cost. –**

(1) The capital cost for small hydro / micro projects during the Control beginning the FY 2021-22, shall be as under:-

Size of project	**Capital Cost (Rs. Crore / MW)**
Below 5 MW	7.80
5 MW to 25 MW	9.00

Provided in the case of small / micro hydro power projects the Commission shall determine project specific tariff only and accordingly determine project specific capital cost as well as CUF, if required, based on case specific hydrological data.

27. **Capacity Utilization Factor**. **–** Capacity Utilization Factor (CUF) for the small hydro projects shall be 56%. The normative CUF shall be net of free power to the State, if any, and any quantum of free power, over and above the free power notified by the Central Government, if committed by the developer by way of implementation agreement or otherwise, over and above the normative CUF, shall not be factored into the tariff. Provided further that the number of hours for calculation of CUF shall be 8766 hours.

28. **Auxiliary Energy Consumption. –** Normative Auxiliary Energy Consumption, including transformation losses, for the small / micro hydro projects shall be 1.0%.

29. **Operation and Maintenance Expenses**. –

(1) Normative O&M expenses for the first year of the Control period (i.e. FY 2021-22) shall be as under:-

Project size	**O&M Expenses (Rs. Crore / MW)**
Below 5 MW	0.33
5 MW to 25 MW	0.24

(2) Normative O&M expenses allowed under these Regulations shall be escalated at the rate of 2.93% per annum for the Tariff Period for the purpose of determination of tariff under these Regulations.

Chapter – 6

Technology specific parameters for Biomass based Power Projects

30. **Technology Aspect**. **–** The norms for tariff determination specified hereunder are for biomass power projects based on Rankine Cycle technology application using water cooled condenser and air cooled condenser, with Travelling grate or AFBC boiler.

31. **Capital Cost**. **–**

(1) The normative capital cost, during the control period under these Regulations, for the biomass power projects using fuel other than Rice Straw/Stubble shall be Rs. 5.59 Crore / MW (Water Cooled Condenser) and Rs. 6.0 Crore / MW for projects using Air Cooled Condenser.

Provided for the project using Rice Straw / Stubble as single fuel for generation of power the Capital Cost, during the control period, shall be Rs. 6.10 Crore / MW (Water Cooled Condenser) and Rs. 6.52 Crore / MW for projects having air cooled condenser.

32. **Plant Load Factor**. **–**

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

33. **Auxiliary Energy Consumption**. **–** The auxiliary energy consumption shall be 10% in the case of projects equipped with water cooled condenser and 12% for air cooled condenser, for the purpose of tariff determination.

34. **Station Heat Rate. –** The Station Heat Rate for biomass power projects shall be 4125 kCal / kWh and 4063 Kcal / kWh for projects equipped with travelling grate boiler and AFBC boiler respectively. Provided for the project using Rice Straw / Stubble as single fuel for generation of power the Station Heat Rate, during the control period, shall be as under:-

Water Cooled – Travelling Grate	4200 kcal/kWh
Air Cooled – Travelling Grate	4200 kcal/kWh
Water Cooled – AFBC Boiler	4125 kcal/kWh
Air Cooled – AFBC Boiler	4125 kcal/kWh

35. **Operation and Maintenance Expenses. –**

(1) Normative O&M expenses for the first year of the Control period (i.e. FY 2021-22) shall be Rs. 0.4642 Crore /MW.

(2) Normative O&M expenses allowed at the commencement of the Control Period (i.e. FY 2021-22) under these Regulations shall be escalated at the rate of 2.93% per annum.

36. **Fuel Mix**. –

(1) The biomass power plant shall be designed in such a way that it uses different types of non-fossil fuels available within the vicinity of biomass power project such as crop residues, agro-industrial residues, forest residues etc. and other biomass fuels as may be approved by MNRE, from time to time.

(2) The Biomass Power Generating Companies shall have appropriate fuel management plan to ensure adequate availability of fuel to meet the respective project requirements.

(3) Use of Fossil Fuel shall not be permitted. However, at least 30% of the fuel requirement shall be met from Paddy Straw by all biomass/non- fossil based cogeneration plants.

(4) The Project developer shall furnish monthly fuel (biomass mix) usage statement and monthly fuel (biomass mix) procurement statement duly certified by Chartered Accountant to the beneficiary (with a copy to appropriate agency that may be appointed / designated by the Commission for the purpose of monitoring fuel consumption and usage) for each month, along with the monthly energy bill.

(5) Non-compliance of the aforesaid condition of fossil fuel usage by the project developer, during any financial year, shall result in withdrawal of applicability of tariff as per these Regulations for such biomass based power project. In such cases the PPA(s) shall be terminated and the Discoms (beneficiaries) shall be under no obligation to make any payments for the power supplied by the seller in breach of the regulation on fuel usage.

Provided that the bagasse based co-generation projects, selling power to the Discoms under PPA approved by the Commission, shall be permitted to use biomass as fuel during the non-cane crushing season. In such cases the generators can approach the Commission for determination of tariff for the power generated using biomass as fuel.

The HPPC shall not refuse purchase of such power without the prior approval of the Commission.

37. **Calorific Value**. – The Calorific Value of the biomass fuel used for the purpose of determination of tariff shall be 3100 (kCal/kg).

38. **Fuel Cost**. – Biomass fuel price during first year of the Control Period shall be Rs. 3000 /MT and shall be escalated at the rate of 2.93% per annum for arriving at the levelised tariff for the entire useful life of the project.

Provided Further, that the Commission, for biomass / bagasse based power project, both existing and to be set up, may consider two part tariff wherein the fixed cost shall be the levelised tariff already determined for the existing projects and the fuel cost shall be as determined on a year to year basis so that the fuel cost remains aligned to the prevailing market conditions.

Provided that to gainfully utilize and thereby prevent burning of paddy straw / stubble in the farms, the Commission would endeavor to promote use of the same in the power projects. Hence, while determining fuel cost / GCV on a year to year basis applicable for the existing as well as to be commissioned biomass / bagasse power projects, appropriate price weightage could be considered. Designated Agency/HAREDA may provide the relevant data collected from the field on a half yearly basis for consideration of the Commission. However, the details of usage of paddy straw / stubble shall be certified by the IPPs and verified by HPPC based on the data emanating from the local authorities concerned.

Provided further, in case, the State Government procures paddy straw/stubble for onward distribution to the power projects, the fuel cost shall be accordingly adjusted.

Further, given the single fuel based generation for paddy straw / stubble based power projects in Haryana, working capital norms shall be accordingly determined.

Chapter – 7

Technology specific parameters for Non-fossil fuel based Cogeneration Projects

39. **Technology Aspect**. **–** A project shall qualify as a non-fossil fuel based Co-generation project, if it is in accordance with the definition as specified under these Regulations.

40. **Capital Cost**. - The normative capital cost for the non-fossil fuel based cogeneration projects shall be Rs. 4.925 Crores/MW during the control period, under these Regulations.

41. **Plant Load Factor**. **–**

(1) For the purpose of determining fixed charge, the plant load factor for non-fossil fuel based cogeneration projects shall be computed on the basis of plant availability for number of operating days considering operations during crushing season and off-season.

(2) The number of operating days shall be 150 days (crushing) + 60 days (off-season) = 210 days operating days and the Plant Load Factor shall be 53%.

(3) Plant Load Factor for biomass based co-generation using fuel other than bagasse shall be 80%.

42. **Auxiliary Energy Consumption**. **–** The auxiliary energy consumption factor shall be 8.5% for the purpose of tariff determination.

43. **Station Heat Rate. –**Station Heat Rate of 3600 kCal / kWh for power generation component shall be considered for computation of tariff for non-fossil fuel based Cogeneration projects.

44. **Calorific Value**. **–** The Gross Calorific Value for Bagasse shall be considered as 2250 kCal/kg. Further, the Gross Calorific Value for Non Fossil Fuel based Cogeneration (other than Bagasse) shall be considered as 3100 kCal/kg.

45. **Fuel Cost. –**

(1) The price of Bagasse shall be Rs. 1027/ MT and shall be escalated at the rate of 2.93% per annum for determination of levellised tariff for the entire useful life of the project.

(2) The price of other Non Fossil Fuel shall be Rs. 3000/ MT and shall be escalated at the rate of 2.93% per annum for determination of levelized tariff for the entire useful life of the project.

46. **Operation and Maintenance Expenses**. **–**

(1) Normative O&M expenses during first year of the Control Period shall be Rs. 0.24 Crore / MW.

(2) The normative O&M expenses allowed at the commencement of the Control Period i.e. the FY 2021-22 under these Regulations shall be escalated at the rate of 2.93% per annum.

Chapter – 8

Technology specific parameters for Solar PV Power Project

47. **Technology Aspects. –** Norms for Solar Photovoltaic (PV) power under these Regulations shall be applicable for grid connected PV systems that directly convert solar energy into electricity and are based on the technologies such as crystalline silicon or thin film etc. as may be approved by MNRE. The Commission shall not determine generic tariff under these Regulations and only project specific tariff, if required, shall be determined.

Provided that the Discoms may do reverse bidding with the lowest / last discovered tariff lowest of competitive bidding by HPPC or SECI, as base tariff.

Provided that the norms including Capital Cost, O&M expenses etc. and the tariff thereto for Solar Pv / Thermal / Rooftop / Canal top / Water works, as per the technology approved by the MNRE, shall be determined on project specific basis depending on the prevalent market trend only if required i.e. in case the competitive bidding route for any reason does not take effect. The broad guiding parameters shall be as under:-

48. **Capacity Utilisation Factor**. **–** The Commission shall approve capacity utilization factor for project specific tariff determination.

Provided that the minimum capacity utilisation factor for Solar PV project including floating solar project shall be 21%.

Provided that the minimum capacity utilisation factor for Solar Thermal project shall be 23%.

49. **Operation and Maintenance Expenses. –**

(1) The O&M Expenses shall be determined based on prevalent market conditions.

(2) Normative O&M expenses allowed at the commencement of the Control Period under these Regulations shall be escalated at the rate of 2.93% per annum.

50. **Auxiliary Energy Consumption. –** The auxiliary energy consumption shall be 0.25% of the gross generation.

Chapter – 9

Technology specific parameters for Biomass Gasifier based Power Project

51. **Technology Aspects**. –

(1) A process achieved by reacting biomass at a high temperatures without combustion / incomplete combustion, with a controlled amount of oxygen and/or steam resulting in production of combustible gases consisting of a mix of Carbon Monoxide (CO), Hydrogen (H2) and traces of Methane (CH4), which shall be called synthesis gas to be used as fuel. The projects shall qualify as biogas based power project provided it is using new plant and machinery and having a grid connected system that uses 100% syngas engine with MNRE approved gasification technology and shall use non fossil fuel as approved by MNRE.

(2) The useful life, for the purpose of these Regulations, for biomass gasification based Projects, shall be 20 years.

(3) The normative Capital Cost, without capital subsidy, shall be Rs. 5.93 Crore / MW for the entire control period unless reviewed by the Commission. However, for determination of tariff, the capital subsidy/grant/ Central Financial Assistance, if available, shall be deducted from the capital cost.

(4) The threshold Plant Load Factor (PLF), including stabilisation period, for the purpose of determining levellised generic tariff under these Regulations shall be 85%.

(5) The Auxiliary Energy Consumption (AUXe), for the purpose of determination of levellised generic tariff under these Regulations, shall be 10%.

(6) The Normative Specific Fuel consumption shall be 1.25 Kg./kWh.

(7) The Normative Operation and Maintenance (O&M) expenses shall be Rs. 0.613 Crore / MW for the base year i.e. the FY 2021-22, the same shall be subject to an escalation factor @ 2.93% per annum form second year onwards.

(8) The base year (FY 2021-22) fuel cost shall be Rs. 3000 / MT and the same shall be escalated @ 2.93% per annum for the purpose of arriving at generic levellised tariff for the entire useful life of the project.

Chapter – 10
Technology specific parameters for Biogas Power Project

52. **Biogas based power projects. –**

(1) A technology for generation of power using a mixture of different gases produced by the breakdown of organic matter (anaerobic digestion with anaerobic organisms in the absence of oxygen / fermentation of biodegradable materials) i.e. produced from raw materials such as agricultural waste, manure, poultry droppings, cow dung, municipal waste, plant material, sewage, green waste or food waste. The projects shall qualify as biogas based power project provided it is using new plant and machinery and having a grid connected system that and uses 100% biogas fired engine with MNRE approved technology.

(2) The useful life, for the purpose of these Regulations, for biogas based projects, shall be 20 years.

(3) The normative Capital Cost, for the entire control period beginning the FY 2021-22 shall be Rs. 11.86 Crore/MW (after accounting for capital subsidy -Rs. 8.86 Crore / MW) unless reviewed earlier by the Commission.

(4) The threshold Plant Load Factor (PLF), including stabilisation period, for the purpose of determining levellised generic tariff under these Regulations shall be 90%.

(5) The Auxiliary Energy Consumption (AUXe), for the purpose of determination of levellised generic tariff under these Regulations, shall be 12%.

(6) The Normative Fuel consumption shall be 3.0 Kg / kWh of substrate mix.

(7) The Normative Operation and Maintenance (O&M) expenses shall be Rs. 0.626 Crore / MW for the base year i.e. the FY 2021-22, the same shall be subject to an escalation factor @ 2.93% per annum form second year onwards for determining levellised tariff for the entire useful life of the project.

(8) The base year (FY 2021-22) fuel cost (Feed Stock Price) shall be Rs. 685 / MT and the same shall be escalated @ 2.93% per annum for the purpose of arriving at levellised tariff for the entire useful life of the project. Provided the cost recovery from digester effluent shall be set off against the Fuel Cost (feed stock price) while determining generic levellised tariff.

Chapter – 11

Technology specific parameters for Processed Municipal Solid Waste (WtE) based Power Projects based on Rankine Cycle Technology

53. A project shall qualify as MSW (WtE) based power project if it uses processed municipal solid waste and are based on Rankine cycle technology application, combustion or incineration, Bio-methanation, Pyrolysis and High end gasifier technologies etc.

(1) **Capital Cost**. **–** The normative capital costs during the entire control period under these Regulations, unless reviewed earlier by the Commission, shall be Rs. 15 Crore / MW.

(2) **Plant Load Factor (PLF)**. –

(1) Threshold Plant Load Factor for determining fixed charge component of tariff for the municipal solid waste WtE projects shall be as under:-

PLF(%) processed MSW (WtE) based Power Projects

a) During Stabilisation 65%
b) During the remaining period of the first year (after stabilization) 65%
c) From 2nd Year onwards75%

(2) The stabilization period shall not be more than 6 months from the date of commissioning of the project.

(3) **Auxiliary Energy Consumption (AUXe) –** The auxiliary power consumption for the Waste to energy power projects using municipal solid waste shall be 15%.

(4) **Operation and Maintenance Expenses (O&M)** – The Normative O&M expenses for the first year of the control period under these Regulations i.e. FY 2021-22 shall be 6.5% of normative capital cost. The same shall be escalated @ 2.93% per annum to arrive at the levellised tariff for the entire useful life of the project.

Chapter – 12

Technology specific parameters for Renewable Hybrid Energy Projects

54. Capital Cost

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

55. Capacity Utilisation Factor

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

56. Operation and Maintenance expenses

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

57. 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 upto 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 RE hybrid project is left with further useful life, the levelised tariff for remaining useful life of such RE technology shall be determined separately, by factoring in the tariff components for the remaining useful life.

Chapter – 13

Technology specific parameters for Renewable Energy with storage project

58. Capital Cost

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

59. Storage Efficiency

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

Provided that the minimum efficiency for storage based on technology of solid state batteries shall be 80%:

Provided further that the minimum efficiency for storage based on technology of pumped storage shall be 75%:

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

60. Operation and Maintenance expenses

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

61. Tariff determination for Energy Storage

The tariff for renewable energy with storage project shall be a composite tariff or differential tariff based on 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 supply of power on round the clock basis or for time periods as agreed by Project Developer and Beneficiary.

Chapter – 14

Renewable purchase obligation (RPO) and Renewable Energy Certificate (REC)

62. **Renewable Purchase Obligation.** –

(1) Every obligated entity including distribution licensee, consumers owning captive power plant and open access consumers including short term open access consumers in Haryana, shall purchase energy from renewable energy sources under the Renewable Purchase Obligation (RPO) as under:-

Year	Solar RPO*	Non Solar RPO			Total RPO
		HPO**	Other Non Solar RPO*	Total Non Solar RPO *	
2021-22	8.00%	0.00	3.00%	3.00%	11.00%
2022-23	9.00%	0.35%	5.00%	5.35%	14.35%
2023-24	10.00%	0.66%	6.00%	6.66%	16.66%
2024-25	To be specified later	1.08%	To be specified later	To be specified later	To be specified later
2025-26		1.48%			
2026-27		1.80%			
2027-28		2.15%			
2028-29		2.51%			
2029-30		2.82%			

** HPO within Non Solar Renewable Purchase Obligation (RPO) means "Hydropower Purchase Obligation, to be met from purchase of power/Hydro Energy Certificates from Large Hydropower Projects having capacity of more than 25 MW (LHPs) which come into commercial operation after 08.03.2019.

(2) RPO shall be calculated in energy terms as a percentage of total consumption of electricity excluding consumption met from RE sources and hydro sources (LHPs).

(3) Solar RPO may be met by power produced from solar power plants — solar photo voltaic or solar-thermal.

(4) Other Non-Solar RPO (excluding HPO), may be met from any renewable source other than solar and LHPs.

(5) HPO benefits may be met from the power procured from eligible LHPs commissioned on and after 8.3.2019 and upto 31.03.2030 in respect of 70% of the total generated capacity for a period of 12 years from the date of commissioning. Free power is to be provided as per agreement with the State Government and that provided for Local Area Development Fund (LADF), shall not be included within this limit of 70% of the total generated capacity.

(6) HPO liability of the State/ Discom could be met out of the free power being provided to the State from LHPs commissioned after 08.03.2019 as per agreement at that point of time excluding the contribution towards LADF if consumed within the State/Discom. Free power (not that contributed for Local Area Development) only to extent of HPO liability of the State/Discom, shall be eligible for HPO benefit.

(7) In case the free power, as above, is insufficient to meet the HPO obligations, then the State would have to buy the additional hydro power to meet its HPO obligations or may have to buy the corresponding amount of Hydro Energy Certificate to meet the non-solar hydro renewable purchase obligations.

(8) The Hydro Energy Certificate issued under the mechanism developed by CERC shall be valid instruments for the discharge of the HPO obligations.

(9) The above HPO Trajectory shall be trued up on an annual basis depending on the revised commissioning schedule of Hydro projects.

(10) Hydro power imported from outside India shall not be considered for meeting HPO.

(11) On achievement of Solar RPO compliance to the extent of 80% and above, remaining shortfall, if any, can be met by excess non-solar energy consumed beyond specified Non-Solar RPO for that particular year. Similarly, on achievement of Other Non-Solar RPO compliance to the extent of 80% and above, remaining shortfall if any, can be met by excess solar or eligible hydro energy consumed beyond specified Solar RPO or HPO for that particular year. Further, on achievement of HPO compliance to the extent of 80% and above, remaining shortfall, if any, can be met by excess solar or other non—solar energy consumed beyond specified Solar RPO or Other Non-Solar RPO for that particular year.

(12) RPO for fossil fuel based Captive Power Plants (CPP) of 5 MW and above including Fossil fuel based co-generation captive plant of 5MW and above, shall be pegged at the RPO level applicable in the year in which CPP is commissioned. However, RPO of such plants commissioned up to 2018-19 shall be pegged at RPO applicable for the FY 2018-19. As and when the company

add to the capacity of the CPP, it will have to provide for additional RPO as obligated in the year in which new capacity is commissioned.

(13) The DISCOMs, while complying with the RPO, shall ensure trade-off between REC & purchase of RE Power and take financial prudent action accordingly.

Provided further, such obligation to purchase renewable energy shall be inclusive of the purchases, if any, from renewable energy sources already being made by obligated entity concerned.

Provided also that the power purchases under the power purchase agreements for the purchase of renewable energy sources already entered into by the distribution licensees and consented to by the Commission shall continue to be made till validity of the Power Purchase Agreement approved by the Commission, even if the total purchases under such agreements exceed the RPO as specified in these regulations.

63. **Certificates under the Regulations of the Central Commission.** –

(1) Subject to the terms and conditions contained in these regulations the Certificates issued under the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 shall be the valid instruments for the discharge of the mandatory obligations set out in these regulations for the obligated entities to purchase electricity from renewable energy sources.

Provided that in the event of the obligated entity fulfilling the renewable purchase obligation by purchase of certificates, the obligation to purchase electricity from generation based on solar as renewable energy source can be fulfilled by purchase of solar certificates only, and the obligation to purchase electricity from generation based on renewable energy other than solar can be fulfilled by purchase of non-solar certificates.

(2) Subject to such direction as the Commission may give from time to time, the obligated entity shall act in consistent with the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 notified by the Central Commission and as amended from time to time in regard

to the procurement of the certificates for fulfillment of the Renewable Purchase Obligation under these regulations.

(3) The Certificates purchased by the obligated entities from the power exchange in terms of the regulation of the Central Commission mentioned in sub regulation (1) of this Regulation shall be deposited by the obligated entities to the Commission in accordance with the detailed procedure issued by the Central Agency.

The Obligated Entities including the Power Utilities in Haryana under these Regulations may meet its RPO target by way of own generation or procurement of power from RE developer or by way of purchase from other licensee or by way of purchase of Renewable Energy Certificate or by way of combination of any of the above options. However, RE power generated in States other than in the State of Captive Generator, by an obligated entity shall not qualify for fulfilment of RPO in Haryana.

Provided that in the case of an obligated entity with conventional captive power generation plant as defined in the Electricity Act, 2003, may meet their RPO, solar and non solar as the case may be by self / own generation in Haryana of respective renewable power.

64. **State Agency**. –

(1) The Commission designates Haryana Renewable Energy Development Agency (HAREDA) as the State Agency for accreditation and recommending the renewable energy projects for registration and to undertake functions in sync with regulation 38.

(2) The State Agency shall function in accordance with the directions issued by the Commission and shall act in consistent with the procedures rules laid by Central Agency for discharge of its functions under the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 as amended from time to time.

(3) The State Agency shall submit quarterly status to the Commission in respect of compliance of renewable purchase obligation by the obligated entities in the format as stipulated by the Commission and may suggest appropriate action to the Commission if required for compliance of the renewable purchase obligation.

(4) If the Commission is satisfied that the State Agency is not able to discharge its functions satisfactorily, it may by general or special order, and by recording reasons in writing, designate any other agency to function as State Agency as it considers appropriate.

65. **Effect of default.** –

(1) If the obligated entities do not fulfill the renewable purchase obligation as provided in these regulations during any year and also does not purchase the certificates, the Commission may direct the obligated entity to deposit into a separate fund, to be created and maintained by such obligated entity, such amount as the Commission may determine on the basis of the shortfall in the RPO determined under these regulations from time to time at the forbearance price notified by the Central Commission.

Provided that the fund so created shall be utilized, as may be directed by the Commission, for purchase of the renewable energy certificates.

Provided further that the Commission may empower an officer of the State Agency to procure from the Power Exchange the required number of certificates to the extent of the shortfall in the fulfillment of the obligations, out of the amount in the fund.

Provided also that the distribution licensee shall be in breach of its licence condition if it fails to deposit the amount directed by the Commission within 30 days of the communication of the direction or within such period as directed by the Commission.

(2) Where any obligated entity fails to comply with the obligation to purchase the required percentage of power from renewable energy sources or the renewable energy certificates, it shall also be liable for penalty as may be decided by the Commission under section 142 of the Act.

Provided that in case of genuine difficulty in complying with the renewable purchase obligation because of limited availability of renewable energy or non-availability of certificates, the obligated entity can approach the Commission for relaxation or carry forward of compliance requirement to the next year. However, in normal circumstances, the renewable purchase obligation shall not be waived of.

Provided further that where the Commission has consented in writing on an application made by the obligated entity to carry forward of compliance requirement, the provision of regulation 65 (1) of these Regulation or the provision of section 142 of the Act shall not be invoked.

(3) Where any obligated entity being an Open Access Consumer, fails to comply with the obligation to purchase the required percentage of power from renewable energy sources or the renewable energy certificates, on or before 30th April next following the relevant Financial Year, in addition to the consequences mentioned in sub clause 1 & 2 above, Open Access shall not be granted to such consumers w.e.f. 01st May, till the time such Open Access Consumer fulfills RPO obligations. Such obligated Open Access Consumers, shall have to submit the proof of compliance of RPO to DISCOMs.

66. **Banking of RE Power**. –

RE based captive generating plants of owner / consumer with 100 per cent equity holding in the CPP may bank power, up to contract demand for captive/own use on payment of the banking charges along with the transmission and distribution losses (Technical loss) for availing the open access on the transmission or distribution network of the licensees for banking and drawl of banked power from the Discoms after entering into the banking agreement with the Discoms concerned at the terms and condition specified as under:

1. The RE power shall be allowed to be banked with the distribution licensee(s), upto the cumulative contract capacity of 100 MW only, by levying banking charges @ Rs. 1.50/unit, after which the Commission shall review the provisions of banking taking into consideration of the financial impact on distribution companies.

2. The Energy Banked shall be permitted to be carried forwarded from month to month. The banked power shall be utilized within the same financial year failing which the unutilized energy at the end of the financial year shall lapse, and no compensation whatsoever shall be claimed/ paid for such lapsed banked energy, provided the solar energy banked during the last quarter of the financial year shall be carried forward to the next financial year.

3. Banked energy not drawn as per schedule, shall be considered as dumped energy & shall lapse.

4. The banking shall be allowed throughout the year, however, the drawl of banked power shall not be allowed during the peak months (May to September).

5. The drawl of banked power shall also be not allowed during peak load hours as mentioned in the ToD tariff approved by the Commission.

6. The Banked Energy Shall be calculated at the end of a month as follows:-

Banked Energy at the end of month (Ebi)= {Eg(1-losses)-Ec} * (1-b) + Eb (i-1)

* Eg = Energy Generation for the ith month

* Ec = Energy consumption for the ith month

* Eb (i-1) = Energy Banked at the end of previous month

*b = Banking charges in kind.

Further, as far as scheduling and deviation mechanism is concerned, the same shall be governed by the separate Regulations notified by the Commission.

The RE power shall be adjusted as first charge in order of consumption of energy by a consumer. The banking will be counted on daily basis for the purpose of monthly account.

Settlement of wheeled energy at consumer End shall be in the following order of priority:

1. RE generation after deduction of losses.
2. Captive Power
3. Banked Energy
4. Open Access Power through Exchange / Bi-lateral transactions
5. Discom power

67. **Cost of Evacuation System.** – The State transmission utility or the Transmission/Distribution Licensee shall bear the cost of Extra High Voltage (EHV)/ High Voltage (HV) transmission line up to a distance of 10 km. from the inter-connection point, in case power is supplied to DISCOMs under PPA. In case the distance between the inter connection point and point of grid connectivity is more than 10 KMs then the cost of transmission line for the distance beyond the 10 KMs shall be borne equally between the Independent Power Producer and the licensee. However, for canal based solar power projects, the transmission lines shall be provided by the utilities, free of cost, irrespective of the distance of the project from the substation, subject to the conditions that the solar power is generated and utilized within the state of Haryana and is counted towards RPO of the Distribution Licensee(s).

Transmission/Distribution Licensee shall bear the cost of Extra High Voltage (EHV)/ High Voltage (HV) transmission line up to a distance of 10 km and shared cost after 10KM, only in the case where the power is to be supplied to DISCOMs under approved PPA. RE Power producers installed by Independent Power Producers (IPP) for merchant sale or captive consumption, should bear the cost themselves. It is further clarified that the terms & conditions for cost of evacuation of power in respect of PPA entered into by DISCOMs/HPPC with RE Power Producers under competitive bidding, shall be governed by the terms of such PPA.

Further, the power utilities concerned, on being informed about the Scheduled Commissioning Date (SCOD), shall complete the evacuation system well in time.

68. (1) Notwithstanding anything contained in any other Regulation(s) notified by the Commission, Wheeling and Transmission Charges will be exempted for the entire life of the project from the date of commissioning for all Captive Solar Power Projects which have submitted applications to Haryana Renewable Energy Development Agency (HAREDA) for registration of project, purchased land or have taken land on lease for thirty years and have bought equipment & machinery or invested at least Rs. one crore per Mega Watt for purchase of equipment & machinery for setting up of such Captive Solar Power Projects till 13th February, 2019, while cross subsidy surcharges and additional surcharges are not applicable for Captive Solar Power Projects as per provisions of HERC Regulations (Electricity Act 2003). For determining the investment of Rs. One crore per MW, payment for equipment should be made into the bank accounts of equipment supplier before 13th February, 2019 and proof of the same is to be submitted.

(2) No waiver of wheeling and transmission charges, cross subsidy surcharges and additional surcharges shall be given to solar/non solar power Projects set up by IPP/generators for third party sale.

(3) Against the waivers, Renewable Purchase Obligation (RPO) benefit will be provided to Power Utilities.

However, the losses, as determined by the Commission, shall be recovered in kind by the Haryana Power Utilities. Further, banking charges as per these Regulations, shall be applicable so that the Haryana Power Utilities are not burdened un-reasonably.

69. **Cluster of rooftops of public / private buildings.** – Some percentage capacity (to be fixed from time to time) for the setting up of ground mounted mega watt scale grid connected power plants, to meet the solar RPO shall be developed by setting up of grid connected rooftop solar power plants. For that the offers shall be invited by Renewable Energy Department, Haryana/HAREDA from the independent power producers for development of grid connected rooftop solar power plants, of capacity ranging from 250 kWp to 1 MW, on a cluster of public private buildings on the last lowest tariff discovered and conveyed by HPPC. The entire power produced by power producers who set up plants within four years from the date of notification of this policy shall be purchased by the HPPC or any entity of Haryana Govt. Alternatively, the developer can also supply/provide the power for the captive use of the premises where the system is installed along with net meter and can sell the remaining power to HPPC or any entity of Haryana Govt. on the last lowest tariff discovered and conveyed by HPPC or to third party as per HERC regulations.

The rooftop space available in the government organization, institutions, buildings or vacant land of the same can also be provided on lease/rent to the Independent Power Producer/ RESCO developer for setting up of solar power projects.

For such sites the lease/rent rate shall be decided by a Committee of Deputy Commissioner of concerned district, PWD (B&R) Department and the Department owning the building. The developer can also supply/provide the power for the captive use of the premises where the system is installed along with net meter and can sell the remaining power to HPPC on the minimum last tariff discovered and conveyed by HPPC or to third party as per the HERC Regulations.

70. Discount Factor. – The discount factor for working out levelised generic tariff shall be the weighted average cost of capital (WACC).

Chapter – 15

Miscellaneous

71. The levelized tariff of the project calculated on the basis of the norms, specified in these regulations shall be the ceiling levelized tariff.

72.

a) The provisions, if any, contained in any other regulation relating to reduction of contract demand shall not be applicable for Rooftop Solar PV Power.

b) In case of additional cost on account of GST, the generator can approach the Commission with necessary details for allowing additional tariff.

c) The imbalance charges as per Open Access Regulation will not be applicable for Solar Power generated and consumed within the State in real time. However, Open Access consumers/generators shall pay Rs. 1.50/unit for injection/drawal of solar power in the grid as reliability charges.

73. **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 suo moto relax any of the provisions of these regulations or on an application made before it by an interested person.

74. **Issue of orders or directions**. – Subject to the provisions of the Act and these regulations, the Commission may, from time to time, issue orders and procedural directions with regard to the implementation of these regulations and specify the procedure to be followed on various matters, which the Commission has been empowered by the regulations to direct and matters incidental thereto.

75. **Power to amend**. – The Commission may, at any time, add, vary, modify or amend any of the provisions of these regulations.

76. **Power to remove difficulties.** – If any difficulty arises in giving effect to any of the provisions of these regulations, the Commission may, by general or special order, make such provisions, which in the opinion of the Commission are necessary or expedient to do so.

77. **Savings**. – Nothing in these Regulations shall limit the inherent power of the Commission to make such orders as may be necessary to meet the ends of justice or to prevent abuses of the process of law / statutes. Nothing in these Regulations shall bar

the Commission from adopting, any other procedure, which may be at variance with any of the provisions of these Regulations, as long as they are in conformity with the provisions of the Electricity Act, 2003 and the policies framed by the Central / State Government thereto.

Provided that the reasons for any such deviating shall be recorded in writing.

Provided also that nothing in these regulations shall, expressly or implicitly, bar the Commission from dealing with any matter under these Regulations or exercising any power under the Act for which no regulations have been framed.

APPENDIX

Form-1.1: Template for (Wind power projects/ Small hydro projects/ Solar PV power projects/ Solar thermal power projects/ Renewable energy hybrid power projects /Renewable energy with storage projects)

Sl. No.	Assumption Head	Sub-head	Sub-head (2)	Unit	Parameter
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	
			Capacity Utilization Factor (CUF)	%	
			Auxiliary Consumption	%	
			Commercial Operation Date (COD)	dd/mm/yyyy	
			Useful Life	Years	
2	Project Cost	Capital Cost	Normative Capital Cost	Rs. Crore/ MW	
			Capital Cost	Rs. Crore	
			Capital Subsidy, if any	Rs. Crore	
			Net Capital Cost	Rs. Crore	
3	Financial Assumption	Debt Equity	Tariff Period	Years	
			Debt	%	
			Equity	%	
		Debt Component	Total debt amount	Rs. Crore	
			Total equity amount	Rs. Crore	
			Loan Amount	Rs. Crore	
			Moratorium Period	Years	
			Repayment Period (incl moratorium)	Years	
			Interest Rate	%	
		Equity Component	Equity Amount	Rs. Crore	
			Return on Equity for First 20 years	% p.a.	
			Return on Equity after 20 years	% p.a.	
			Discount Rate	%	
		Depreciation	Dep Rate for 1st 15 years	%	
			Dep rate 16th year onwards	%	
		Incentives	GBI, if any	Rs. Crore	
			Period for GBI	Years	
4	O& M Expenses	Normative O&M Expense		Rs. Lakh/MW	
		O&M Expenses p.a.		Rs. Crore	
		Escalation Factor		%	
5	Working Capital	O&M Expenses		Month	
		Maintenance Spares	% of O&M Expenses	%	
		Receivables		Days	
		Interest on Woking Capital		% per annum	

Form-1.2: Template for (Biomass/MSW/RDF)

Sl. No.	Assumption Head	Sub-head	Sub-head (2)	Unit	Parameter
1	Power Generation	Capacity	Installed Power Generation Capacity	MW	
			Aux Consumption	%	
			PLF (1st year)	%	
			PLF (2nd year onwards)	%	
			Commercial Operation Date	dd/mm/yyyy	
			Useful Life	Years	
2	Project Cost	Capital Cost/ MW	Normative Capital Cost	Rs. Crore /MW	
			Capital Cost	Rs. Crore	
			Capital Subsidy, if any	Rs. Crore	
			Net Capital Cost	Rs. Crore	
3	Financial Assumption	Debt Equity	Tariff Period	Years	
			Debt	%	
			Equity	%	
		Debt Component	Total debt amount	Rs. Crore	
			Total equity amount	Rs. Crore	
			Loan Amount	Rs. Crore	
			Moratorium Period	Years	
			Repayment Period (including moratorium)	Years	
			Interest Rate	%	
		Equity Component	Equity Amount	Rs. Crore	
			Return on Equity for First 20 years	% p.a.	
			Return on Equity after 20 years	% p. a.	
			Discount Rate	%	
		Depreciation	Dep Rate for 1st 15 years	%	
			Dep rate 16th year onwards	%	
		Incentives	GBI, if any	Rs. Crore	
			Period for GBI	Years	
4	O&M Expenses	Normative O&M Expenses		Rs. Lakh/MW	
		O&M Expenses p.a.		Rs. Crore	
		Escalation Factor		%	
5	Working Capital	O&M Expenses		Month	
		Maintenance Spares	% of O&M Expenses	%	
		Receivables		Days	
		Interest on WC		%	

Sl. No.	Assumption Head	Sub-head	Sub-head (2)	Unit	Parameter
6	Fuel Related assumptions	Station Heat Rate	During 1st year	kcal/kWh	
			2nd year onwards	kcal/kWh	
		Fuel Type and mix	Biomass Fuel Type-1	%	
			Biomass Fuel Type-2	%	
			Municipal Solid Waste	%	
			Refuse Derived Fuel	%	
			Fossil Fuel (Coal)	%	
			GCV of Biomass Fuel Type-1	kcal/kWh	
			GCV of Biomass Fuel Type-2	kcal/kWh	
			GCV of MSW	kcal/kWh	
			GCV of RDF	kcal/kWh	
			GCV of Fossil Fuel (Coal)	kcal/kWh	
			Biomass Price (Fuel Type-1)/ Yr 1	Rs./MT	
			Biomass Price (Fuel Type-2)/ Yr 1	Rs./MT	
			MSW Price/ Yr 1	Rs./MT	
			RDF Price/ Yr 1	Rs./MT	
			Fossil Fuel (Coal) Price)/ Yr 1	Rs./MT	
			Fuel Price Escalation Factor	% p.a.	

Form-2.1: Template for (Wind power projects or Solar PV power projects /Solar thermal power projects): Determination of Tariff Components

Units Generation	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12
Installed Capacity	MW												
Net Generation	MU												

Units Generation	Unit	Yr-13	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25
Installed Capacity	MW													
Net Generation	MU													

Tariff Components (Fixed charge)	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12
O&M Expenses	Rs Lakh												
Depreciation	Rs Lakh												
Interest on term loan	Rs Lakh												
Interest on working Capital	Rs Lakh												
Return on Equity	Rs Lakh												
Total Fixed Cost	Rs Lakh												

Tariff Components (Fixed charge)	Unit	Yr-13	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25
O&M Expenses	Rs Lakh													
Depreciation	Rs Lakh													
Interest on term loan	Rs Lakh													
Interest on working Capital	Rs Lakh													
Return on Equity	Rs Lakh													
Total Fixed Cost	Rs Lakh													

Per Unit Tariff components	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12
PU O&M expenses	Rs/kWh												
PU Depreciation	Rs/kWh												
PU Interest on term loan	Rs/kWh												
PU Interest on working capital	Rs/kWh												
PU Return on Equity	Rs/kWh												
PU Tariff Components	Rs/kWh												

Per Unit Tariff components	Unit	Yr-13	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25
PU O&M expenses	Rs/kWh													
PU Depreciation	Rs/kWh													
PU Interest on term loan	Rs/kWh													
PU Interest on working capital	Rs/kWh													
PU Return on Equity	Rs/kWh													
PU Tariff Components	Rs/kWh													

Levelized Tariff	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12
Discount Factors													
Discounted Tariff components	Rs/kWh												
Levelized Tariff	Rs/kWh												

Levelized Tariff	Unit	Yr-13	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25
Discount Factors														
Discounted Tariff components	Rs/kWh													
Levelized Tariff	Rs/kWh													

Form-2.2: Template for (Biomass power projects, municipal solid waste based power projects, refuse derived fuel based power projects or non-fossil fuel based co-generation plants): Determination of Tariff Components

Units Generation	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12
Installed Capacity	MW												
Net Generation	MU												

Units Generation	Unit	Yr-13	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25
Installed Capacity	MW													
Net Generation	MU													

Tariff Components (Fixed charge)	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12
O&M Expenses	Rs Lakh												
Depreciation	Rs Lakh												
Interest on term loan	Rs Lakh												
Interest on working Capital	Rs Lakh												
Return on Equity	Rs Lakh												
Total Fixed Cost	Rs Lakh												

Tariff Components (Fixed charge)	Unit	Yr-13	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25
O&M Expenses	Rs Lakh													
Depreciation	Rs Lakh													
Interest on term loan	Rs Lakh													
Interest on working Capital	Rs Lakh													
Return on Equity	Rs Lakh													
Total Fixed Cost	Rs Lakh													

Tariff Components (Variable Charge)	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12
Biomass Fuel Type-1	Rs Lakh												
Biomass Fuel Type-2	Rs Lakh												
Fossil Fuel (coal)	Rs Lakh												
Municipal Solid Waste	Rs Lakh												
Refuse Derived Fuel	Rs Lakh												
Sub-total (Fuel Costs)	Rs Lakh												
Fuel cost allocable to power	%												
Total Fuel Costs	Rs Lakh												

Tariff Components (Variable Charge)	Unit	Yr-13	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25
Biomass Fuel Type-1	Rs Lakh													
Biomass Fuel Type-2	Rs Lakh													
Fossil Fuel (coal)	Rs Lakh													
Municipal Solid Waste	Rs Lakh													
Refuse Derived Fuel	Rs Lakh													
Sub-total (Fuel Costs)	Rs Lakh													
Fuel cost allocable to power	%													
Total Fuel Costs	Rs Lakh													

Per Unit Tariff components (Fixed)	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12
PU O&M expenses	Rs/kWh												
PU Depreciation	Rs/kWh												
PU Interest on term loan	Rs/kWh												
PU Interest on working capital	Rs/kWh												
PU Return on Equity	Rs/kWh												
PU Tariff Components (Fixed)	Rs/kWh												
PU Tariff Components (Variable)	Rs/kWh												
PU Tariff Components (Total)	Rs/kWh												

Per Unit Tariff components (Fixed)	Unit	Yr-13	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25
PU O&M expenses	Rs/kWh													
PU Depreciation	Rs/kWh													
PU Interest on term loan	Rs/kWh													
PU Interest on working capital	Rs/kWh													
PU Return on Equity	Rs/kWh													
PU Tariff Components (Fixed)	Rs/kWh													
PU Tariff Components (Variable)	Rs/kWh													
PU Tariff Components (Total)	Rs/kWh													

Levelized Tariff	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12
Discount Factors													
Discounted Tariff components (Fixed)	Rs/kWh												
Discounted Tariff components (Variable)	Rs/kWh												
Discounted Tariff components (Total)	Rs/kWh												
Levelized Tariff (Fixed)	Rs/kWh												
Levelized Tariff (Variable)	Rs/kWh												
Levelized Tariff (Total)	Rs/kWh												

Levelized Tariff	Unit	Yr-13	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25
Discount Factors														
Discounted Tariff components (Fixed)	Rs/kWh													
Discounted Tariff components (Variable)	Rs/kWh													
Discounted Tariff components (Total)	Rs/kWh													
Levelized Tariff (Fixed)	Rs/kWh													
Levelized Tariff (Variable)	Rs/kWh													
Levelized Tariff (Total)	Rs/kWh													

Form-2.3: Template for (Small Hydro projects): Determination of Tariff Components

Units Generation	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12	Yr-13
Installed Capacity	MW													
Net Generation	MU													

Units Generation	Unit	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25	Yr-26
Installed Capacity	MW													
Net Generation	MU													

Units Generation	Unit	Yr-27	Yr-28	Yr-29	Yr-30	Yr-31	Yr-32	Yr-33	Yr-34	Yr-35	Yr-36	Yr-37	Yr-38	Yr-39	Yr-40
Installed Capacity	MW														
Net Generation	MU														

Tariff Components (Fixed charge)	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12	Yr-13
O&M Expenses	Rs Lakh													
Depreciation	Rs Lakh													
Interest on term loan	Rs Lakh													
Interest on working Capital	Rs Lakh													
Return on Equity	Rs Lakh													
Total Fixed Cost	Rs Lakh													

Tariff Components (Fixed charge)	Unit	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25	Yr-26
O&M Expenses	Rs Lakh													
Depreciation	Rs Lakh													
Interest on term loan	Rs Lakh													
Interest on working Capital	Rs Lakh													
Return on Equity	Rs Lakh													
Total Fixed Cost	Rs Lakh													

Tariff Components (Fixed charge)	Unit	Yr-27	Yr-28	Yr-29	Yr-30	Yr-31	Yr-32	Yr-33	Yr-34	Yr-35	Yr-36	Yr-37	Yr-38	Yr-39	Yr-40
O&M Expenses	Rs Lakh														
Depreciation	Rs Lakh														
Interest on term loan	Rs Lakh														
Interest on working Capital	Rs Lakh														
Return on Equity	Rs Lakh														
Total Fixed Cost	Rs Lakh														

Per Unit Tariff components	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12	Yr-13
PU O&M expenses	Rs/kWh													
PU Depreciation	Rs/kWh													
PU Interest on term loan	Rs/kWh													
PU Interest on working capital	Rs/kWh													
PU Return on Equity	Rs/kWh													
PU Tariff Components	Rs/kWh													

Per Unit Tariff components	Unit	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25	Yr-26
PU O&M expenses	Rs/kWh													
PU Depreciation	Rs/kWh													
PU Interest on term loan	Rs/kWh													
PU Interest on working capital	Rs/kWh													
PU Return on Equity	Rs/kWh													
PU Tariff Components	Rs/kWh													

Per Unit Tariff components	Unit	Yr-27	Yr-28	Yr-29	Yr-30	Yr-31	Yr-32	Yr-33	Yr-34	Yr-35	Yr-36	Yr-37	Yr-38	Yr-39	Yr-40
PU O&M expenses	Rs/kWh														
PU Depreciation	Rs/kWh														
PU Interest on term loan	Rs/kWh														
PU Interest on working capital	Rs/kWh														
PU Return on Equity	Rs/kWh														
PU Tariff Components	Rs/kWh														

Levelized Tariff	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12	Yr-13
Discount Factors														
Discounted Tariff components	Rs/kWh													
Levelized Tariff	Rs/kWh													

Levelized Tariff	Unit	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25	Yr-26
Discount Factors														
Discounted Tariff components	Rs/kWh													
Levelized Tariff	Rs/kWh													

Levelized Tariff	Unit	Yr-27	Yr-28	Yr-29	Yr-30	Yr-31	Yr-32	Yr-33	Yr-34	Yr-35	Yr-36	Yr-37	Yr-38	Yr-39	Yr-40
Discount Factors															
Discounted Tariff components	Rs/kWh														
Levelized Tariff	Rs/kWh														

Date: 27.04.2021
Place: Panchkula

By Order of the Commission
Sd/-
Director (Tariff)
HERC, Panchkula.