

**Maharashtra Electricity Regulatory Commission (Grid Interactive Rooftop
Renewable Energy Generating Systems) Regulations, 2019**

ELECTRICITY ACT, 2003

No. MERC / Tech /Regulation/2019 /1234- In exercise of the powers conferred under Sections 86(1) (e) and 181 of the Electricity Act, 2003 (36 of 2003) and all other powers enabling it in this behalf, and after previous publication, the Maharashtra Electricity Regulatory Commission hereby makes the following Regulations, namely:-

1 Short title, extent and commencement

- 1.1 These Regulations may be called the Maharashtra Electricity Regulatory Commission (Grid Interactive Rooftop Renewable Energy Generating Systems) Regulations, 2019.
- 1.2 These Regulations shall extend to the whole of the State of Maharashtra.
- 1.3 These Regulations shall come into force from the date of their publication in the *Official Gazette*.

2 Definitions

2.1 In these Regulations, unless the context otherwise requires,

- (a) “Act” means the Electricity Act, 2003 (36 of 2003);
- (b) “Average Power Purchase Cost” or “APPC” means the weighted average price at which the Distribution Licensee has purchased or is expected to purchase electricity (excluding procurement from RE sources and liquid fuel sources), including the cost of self-generation, if any, as approved by the Commission in the relevant Tariff Order or any other general or specific Order;
- (c) “Banked Energy” means the surplus Renewable Energy generated and credited with the Distribution Licensee after set off with consumption in the same Time of Day slot, if applicable;
- (d) “Billing Cycle” or “Billing Period” means the period for which the electricity bill is raised by the concerned Distribution Licensee;

- (e) "Check Meter" means a meter, used for accounting and billing of electricity in case of failure of Net Meter or Renewable Energy Generation Meter;
- (f) "Commission" means the Maharashtra Electricity Regulatory Commission constituted under the Act;
- (g) "Consumer" means a consumer as defined in the Act;
- (h) "Contract Demand" means the demand in kilowatt ('kW') or kilovolt ampere ('kVA') or Horse Power ('HP'), as mutually agreed between the Distribution Licensee and the consumer, and as entered into in an agreement in which the Distribution Licensee makes a commitment to supply in accordance with the terms and conditions contained therein; or equal to the Sanctioned Load, where the Contract Demand has not been provided in such agreement;
- (i) "Electricity Supply Code" means the Electricity Supply Code specified by the Commission under Section 50 of the Act;
- (j) "Eligible Consumer" means a consumer of electricity in the area of supply of the Distribution Licensee who uses or intends to use a Renewable Energy Generating System having a capacity less than 1 MW, installed on a roof-top or any other mounting structure in his premises, to meet all or part or no part of his own electricity requirement, and includes a Consumer catering to a common load such as a Housing Society:
- Provided that such Generating System may be owned and/or operated by such Consumer, or by a Distribution Licensee or third party leasing such System to the Consumer:
- Provided further that in case of Net Billing Arrangement, the capacity limit of 1 MW shall not apply;
- (k) "Generic Tariff" means the Generic Tariff approved or adopted by the Commission for generation from different Renewable Energy sources in accordance with the Maharashtra Electricity Regulatory Commission (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2019, or as amended from time to time;
- (l) "Inter-connection Point" means the interface of the Renewable Energy Generating

System with the outgoing terminals of the meter / Distribution Licensee's cut-outs/ switchgear fixed in the premises of the Eligible Consumer:

Provided that, in the case of an Eligible Consumer connected at the High Tension ('HT') level, the 'Inter-connection Point' shall mean the interface of the Renewable Energy Generating System with the outgoing terminals of the Distribution Licensee's metering cubicle placed before such Consumer's apparatus;

- (m) "Invoice" means a Monthly Bill or Supplementary Bill, or Monthly Invoice or Supplementary Invoice, as the case may be, raised by the Distribution Licensee;
- (n) "Net Billing Arrangement" means an arrangement under which energy generated by Renewable Energy Generating System is purchased by the Distribution Licensee and the Distribution Licensee raises the bills on the consumer for his consumption at the approved grid tariff, after giving credit for total generated electricity against a pre-determined tariff;
- (o) "Net Billing Connection Agreement" means an agreement entered into by a Distribution Licensee and an Eligible Consumer for executing a Net Billing arrangement;
- (p) "Net Meter" means a bi-directional energy meter, which is capable of recording both the import and export of electricity;
- (q) "Net Metering Arrangement" means an arrangement under which a Renewable Energy Generating System with Net Meter installed at an Eligible Consumer's premises, delivers surplus electricity, if any, to the Distribution Licensee after setting off the quantum of electricity supplied by such Licensee during the applicable Billing Period;
- (r) "Net Metering Connection Agreement" means an agreement entered into by a Distribution Licensee and an Eligible Consumer for executing a Net Metering arrangement;
- (s) "Obligated Entity" means an entity required to fulfil a Renewable Purchase Obligation ('RPO') as specified by the Commission in Regulations governing such Obligation ('the RPO Regulations');
- (t) "Premises" means and includes roof-tops or any areas on the land, building or infrastructure or part or combination thereof in respect of which a separate meter has

been provided by the Distribution Licensee for the supply of electricity;

- (u) “Renewable Energy” means the grid connected and grid quality electricity generated from Renewable Energy sources, including a combination of such sources;
- (v) “Renewable Energy Certificate” means the Certificate issued in accordance with the procedures specified by the Central Electricity Regulatory Commission;
- (w) “Renewable Energy Generating System” means the Renewable Energy power system with or without energy storage installed on a Consumer’s premises, and owned and/or operated by such Consumer or by a Distribution Licensee or a third party, that uses Renewable Energy for conversion into electricity;
- (x) “Renewable Energy Generation Meter” means an energy meter used for measuring the energy generated by the Renewable Energy Generating System for the purpose of accounting and billing:

Provided that a separate Renewable Energy Generation Meter shall be installed for each source of Renewable Energy in case of hybrid or combination of such sources;

- (y) “Renewable Energy sources” means the renewable sources or combination of such sources, such as Mini, Micro and Small Hydro, Wind, Solar, Biomass including bagasse, bio-fuel, urban or Municipal Solid Waste as defined in the Maharashtra Electricity Regulatory Commission (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2019, as amended from time to time, and such other sources as are recognized or approved by the Ministry of New and Renewable Energy, Government of India;
- (z) “Settlement Period” means the period beginning from the first day of April of a calendar year and ending with the thirty-first day of March of the following calendar year.

2.2 Words and expressions used in these Regulations which are not specifically defined herein but are defined in the Act shall have the meaning assigned to them in the Act; and, if not defined in the Act, shall have the meaning assigned to them in any Act of Parliament or the State Legislature applicable to the electricity industry.

PART A – GENERAL

3 Scope and Applicability

3.1 These Regulations would apply to:

- (a) Net Metering Arrangements;
- (b) Net Billing Arrangements;
- (c) Grid Connected Renewable Energy Generating Systems connected behind the Consumer's meter, who have not opted either for Net Metering Arrangement or Net Billing Arrangement.

3.2 These Regulations shall be applicable to all Grid Interactive installations for which Applications are received on or after the notification of these Regulations.

4 General Conditions of Net Metering Arrangement and Net Billing Arrangement

4.1 Net Metering Arrangement or Net Billing Arrangement, as the case may be, shall be permitted by the Distribution Licensee on a non-discriminatory and Distribution Transformer-wise or feeder wise 'first come, first serve' basis to Eligible Consumers who have installed or intend to install a Renewable Energy Generating System connected to the Network of such Distribution Licensee:

Provided that the inter-connection of such System with the Network of the Distribution Licensee is undertaken in accordance with the standards and norms specified in the Central Electricity Authority (CEA) (Technical Standard for Connectivity of the Distributed Generation Resources) Regulations, 2013 or as may be specified in future.

4.2 The Eligible Consumer of all categories may set up the Renewable Energy Generating System under the Net Metering Arrangement or Net Billing Arrangement.

5 Capacity limits at Distribution Transformer level

5.1 The Distribution Licensee shall allow Net Metering Arrangement or Net Billing Arrangement, as the case may be, to Eligible Consumers as specified in these Regulations.

5.2 The cumulative capacity of all Renewable Energy Generating Systems under Net Metering Arrangements and/or Net Billing Arrangements connected to a particular Distribution Transformer/feeder of the Licensee shall not exceed 70% of its rated capacity:

Provided that the Distribution Licensee may allow Net Metering and/or Net Billing connectivity exceeding 70% of such rated capacity upon consideration of a detailed load study carried out by it.

- 5.3 The Distribution Licensee shall update the Distribution Transformer-wise capacity available and the cumulative capacity of the Renewable Energy Generating Systems installed under Net Metering arrangements quarterly, and provide the information on its website in the month following the close of the relevant quarter in the format specified in Annexure 6.

PART B – TECHNICAL ARRANGEMENTS

6 Eligible Consumer and individual Project capacity

- 6.1 The minimum size of the Renewable Energy Generating System that can be set up under Net Metering Arrangement and Net Billing Arrangement would be 1 kW.
- 6.2 The capacity of the Renewable Energy Generating System to be connected at the Eligible Consumer's premises shall not exceed the Sanctioned load (in kW) or the Contract Demand (in kVA) of the Consumer, as applicable.
- 6.3 The maximum Renewable Energy Generating System capacity to be installed at an Eligible Consumer's premises shall be subject to the cumulative capacity of the relevant Distribution Transformer, which has already been utilized, as specified in Regulation 5.2:

Provided that a variation in the rated capacity of the System within a range of five percent shall be allowed.

- 6.4 HT (11 kV and above) Consumers may install and connect Renewable Energy Generating System at their LT Bus Bar System:

Provided that, in such cases, the Net Meter shall be installed on the HT side of the Consumer's Transformer.

- 6.5 An Eligible Consumer may install or enhance the capacity of, or upgrade the Renewable Energy Generating Systems at different locations within the same premises:

Provided that the total capacity of such Systems within the same premises shall not exceed the capacity limits specified in Regulations 6.2 and 6.3.

- 6.6 Consumers with pending arrears with the Distribution Licensee shall not be eligible for Net Metering Arrangement or Net Billing Arrangement under these Regulations.

7 Inter-connection with the Distribution Network / Grid, Standards and Safety

7.1 The Distribution Licensee shall ensure that the inter-connection of the Renewable Energy Generating System with its Network conforms to the specifications, standards and other provisions specified in the CEA (Technical Standard for Connectivity of the Distributed Generation Resources) Regulations, 2013, the CEA (Measures relating to Safety and Electric Supply), Regulations, 2010, and the Maharashtra Electricity Regulatory Commission (State Grid Code) Regulations, 2006, or as may be specified in future.

7.2 The Eligible Consumer may install a Renewable Energy Generating System with or without storage:

Provided that, if an Eligible Consumer opts for connectivity with storage, the inverter shall have appropriate arrangement to prevent the power from flowing into the grid in the absence of grid supply, and that an automatic as well as manual isolation switch shall also be provided.

7.3 The Eligible Consumer shall be responsible for the safe operation, maintenance and rectification of any defect in the Renewable Energy Generating System up to the point of Net Meter or Renewable Energy Generation Meter, beyond which point such responsibility, including in respect of the Net Meter, shall be that of the Distribution Licensee:

Provided further that the Renewable Energy Generation Meter shall be maintained by the Distribution Licensee.

7.4 The Distribution Licensee shall have the right to disconnect the Renewable Energy Generating System from its network at any time in the event of any threat of accident or damage from such System to its distribution system so as to avoid any accident or damage to it:

Provided that the Distribution Licensee, considering the criticality, may call upon the Consumer to rectify the defect within a reasonable time.

7.5 The Renewable Energy Generating System must have appropriate protection for islanding the RE generating system from the network of the Distribution Licensee to prevent any feeding into the grid in case of failure of supply or grid:

Provided that applicable IEC/IEEE Technical Standards shall be followed to test islanding prevention measure for grid connected inverters.

- 7.6 Every Renewable Energy Generating System shall be equipped with an automatic synchronization device:

Provided that the Renewable Energy Generating System using inverter shall not be required to have separate synchronizing device, if it is inherently built into the inverter.

- 7.7 The inverter shall have the features of filtering out harmonics and other distortions before injecting the energy into the system of the Distribution Licensee.

- 7.8 The Total Voltage Harmonic Distortion (THD) shall be within the limits specified in the Indian Electricity Grid Code (IEGC)/IEEE technical standards.

- 7.9 Grid Connected Renewable Energy Generating Systems connected behind the Consumer's meter, and not opting for either Net Metering Arrangement or Net Billing Arrangement, shall be allowed only after prior intimation to the respective Distribution Licensee:

Provided that the Consumer shall be responsible for ensuring that all necessary safeguarding measures as specified by Central Electricity Authority (CEA) are taken:

Provided further that the Commission may determine additional Fixed Charges or Demand Charges and any other Charges for such Grid Connected systems excluding Non-fossil fuel-based Cogeneration Plants, in the retail Tariff Order, if the Distribution Licensee proposes such additional Fixed Charges or Demand Charges and any other Charges for such systems, in its retail supply Tariff Petition, supported by adequate justification:

Provided also that in case the Consumer installs Renewable Energy Generating Systems behind the Consumer's meter without prior intimation to the respective Distribution Licensee, then the total additional liabilities in terms of additional Fixed Charges or Demand Charges and any other Charges for such systems, shall be levied at twice the determined rate for such period of default.

- 7.10 The model Form, for intimating installation of Renewable Energy Generator behind the meter by the Eligible Consumer to the concerned Licensee, is set out at Annexure 5 of these Regulations.

8 Metering Infrastructure

- 8.1 All meters installed at the Renewable Energy Generating System shall comply with the CEA (Installation and Operation of Meters) Regulations, 2006 and subsequent amendments thereof.

- 8.2 All meters shall have Advanced Metering Infrastructure (AMI) facility with RS 485 (or higher) communication port.

- 8.3 The Net Metering Arrangement shall include a single-phase or a three-phase Net Meter, as may be required, located at the point of inter-connection as ascertained by the Distribution Licensee.
- 8.4 Existing Meter in the premises of the Eligible Consumer shall be replaced by the Net Meter at the cost of the Consumer, in accordance with the provisions of the Electricity Supply Code.
- 8.5 If the Eligible Consumer is within the ambit of Time-of-Day ('ToD') Tariff, the Net Meter installed shall be capable of recording ToD consumption and generation.
- 8.6 The Distribution Licensee shall be responsible for the testing, installation, and maintenance of the metering equipment, and its adherence to the applicable standards and specifications.
- 8.7 The Eligible Consumer shall procure, at his own cost, a Renewable Energy Generation Meter conforming to the applicable CEA Regulations at an appropriate location to measure the energy generated from the Renewable Energy Generating System.
- 8.8 The Renewable Energy Generation Meter shall be maintained by the Distribution Licensee.
- 8.9 The Net Meter and the Renewable Energy Generation Meter shall be installed at such locations in the premises of the Eligible Consumer as would enable easy access to the Distribution Licensee for meter reading.
- 8.10 In case of Renewable Energy Generating System with capacity above 20 kW set up under Net Metering Arrangement, a Check Meter of appropriate class shall be installed by the Distribution Licensee for the Renewable Energy Generation Meter:
- Provided that installation of Check Meter shall be optional for Renewable Energy Generating System with capacity up to and including 20 kW.
- 8.11 In case of Renewable Energy Generating System set up under Net Billing Arrangement, an additional Check Meter for the Renewable Energy Generation Meter of appropriate class shall be installed by the Distribution Licensee.

9 Procedure for Application and Registration

- 9.1 The Eligible Consumer shall apply to the concerned Distribution Licensee for connectivity of the Renewable Energy Generating System with the Licensee's Network along with a registration fee as follows and the Distribution Licensee shall acknowledge receipt of such

application:

Particulars	Registration Fee
Low Tension Consumer	Rs. 500 for consumer having Sanctioned Load or Contract Demand upto 20 kW and Rs 100 thereafter for every 20 kW or part thereof
High Tension Consumer	Rs 5,000/-

Provided that the Commission may stipulate such other amount through Schedule of Charges of the Distribution Licensee from time to time.

- 9.2 All applications and payment of fees shall be compulsorily made through web-based processing system by electronic means only.
- 9.3 The Consumer shall compulsorily provide details of email address and mobile number, along with the application.
- 9.4 All correspondence by the Distribution Licensee with the Consumer shall be through email and mobile only.
- 9.5 The procedure for application for connectivity of a Renewable Energy Generating System with the Network of the Distribution Licensee is set out at Annexure 1 of these Regulations.
- 9.6 The model Form, along with check-list, for application to be made by the Eligible Consumer to the concerned Licensee, is set out at Annexure 2 of these Regulations.
- 9.7 Before rejecting any application for setting up a Renewable Energy Generating System at a particular Distribution Transformer, the Distribution Licensee shall serve the applicant with a notice to rectify the defects in the ambit of the consumer, within 15 days or such longer period as may be necessary, the deficiencies:

Provided that in case approval cannot be granted due to inadequate Distribution Transformer capacity or any other technical constraints, the consumer should be informed through written communication only, specifying the reasons of the rejection:

Provided further that the application may be considered, in chronological order of seniority and if the Consumer so opts, after such capacity becomes available/technical constraint is rectified.

- 9.8 The approval for connectivity from the Distribution Licensee shall indicate the maximum permissible capacity of the System, and shall be valid for a period of 6 months from the date of approval, or such extended period as may be agreed to by the Distribution Licensee:

Provided that if the Consumer fails to set up the Renewable Energy Generating System within the above stated period, then the approval shall be deemed to be cancelled, and the Consumer shall have to apply afresh.

10 Connection Agreement

10.1 The Distribution Licensee and Eligible Consumer shall enter into a Net Metering Connection Agreement or Net Billing Connection Agreement, as the case may be, after approval of connectivity of the Renewable Energy Generating System with the distribution Network but before the start of actual generation from the System.

10.2 A model Net Metering Connection Agreement is provided at Annexure 3, which the Distribution Licensee may modify suitably, subject to consistency with these Regulations.

10.3 A model Net Billing Connection Agreement is provided at Annexure 4, which the Distribution Licensee may modify suitably, subject to consistency with these Regulations.

10.4 The Distribution Licensee shall make available the Agreement formats on its website, along with the applicable procedure and Application and other relevant forms, within two months of notification of these Regulations.

10.5 The Connection Agreement shall remain in force for twenty years:

Provided that the Eligible Consumer may terminate the Agreement at any time by giving 90 days' notice to the Distribution Licensee:

Provided further that the Distribution Licensee may terminate the Agreement by giving 30 days' notice, if the Eligible Consumer breaches any term of the Agreement and does not remedy such breach within 30 days, or such other longer period as may be provided, of receiving notice from the Licensee of such breach, or for any other valid reason to be communicated in writing:

Provided also that the Distribution Licensee may terminate the Agreement by giving 15 days' notice in case the consumer fails to pay his dues in a timely manner or indulges in any malpractices:

Provided also that the Agreement may be terminated at any time by mutual consent.

10.6 The Eligible Consumer shall, upon termination of the Agreement, disconnect forthwith its Renewable Energy Generating System from the Distribution Licensee's Network.

PART C - COMMERCIAL ARRANGEMENTS

11 Net Metering - Energy Accounting and Settlement

11.1 The accounting of electricity exported and imported by the Eligible Consumer shall become effective from the date of connectivity of the Renewable Energy Generating System with the distribution network.

11.2 The Distribution Licensee shall undertake meter reading of both, the Renewable Energy Generation Meter and the Net Meter, for all Eligible Consumers, according to the regular metering cycle.

11.3 For each Billing Period, the Distribution Licensee shall make the following information available on its bill to the Eligible Consumer:

- a) Quantum of Renewable Energy generation recorded in the Renewable Energy Generation Meter in the billing period, including opening and closing balance;
- b) Quantum of electricity units consumed by the Consumer in the billing period, including opening and closing balance;
- c) Quantum of net billed electricity units, for which a payment is to be made by the Consumer;
- d) Banked Energy and corresponding monetary compensation, adjusted in the billing period;
- e) Renewable Energy generation units used by the Distribution Licensee for RPO compliance.

11.4 The energy generated by the Renewable Energy Generating Station shall be offset against the energy consumption of the consumer from the Distribution Licensee in the following manner:

- a) If the quantum of electricity exported exceeds the quantum imported during the Billing Period, the excess quantum shall be carried forward to the next Billing Period as credited Units of electricity;
- b) If the quantum of electricity Units imported by the Eligible Consumer during any Billing Period exceeds the quantum exported, the Distribution Licensee shall raise its invoice for the net electricity consumption after adjusting the credited Units;
- c) The unadjusted net credited Units of electricity as at the end of each financial year shall be purchased by the Distribution Licensee at the Generic Tariff approved by the Commission for that year, within the first month of the following year:
Provided that, at the beginning of each Settlement Period, the cumulative quantum of injected electricity carried forward will be re-set to zero;

- d) In case the Eligible Consumer is within the ambit of Time of Day (ToD) tariff, the electricity consumption in any time block, i.e. peak hours, off-peak hours, etc., shall be first compensated with the quantum of electricity injected in the same time block; any excess injection over and above the consumption in any other time block in a Billing Cycle shall be accounted as if the excess injection had occurred during off-peak hours;
- e) The Distribution Licensee shall compute the amount payable to the Eligible Consumer for the excess Renewable Energy purchased by it as specified in Regulation 11.4 (c), and shall provide credit equivalent to the amount payable in the immediately succeeding Billing Cycle.

11.5 The Commission may determine in the retail Tariff Order such Grid Support Charges to be levied on the generated energy under Net Metering systems which shall cover balancing, banking and wheeling cost after adjusting RPO benefits, avoided distribution losses and any other benefits accruing to the Distribution Licensee. These Grid Support Charges would be determined consumer tariff category wise, based on the proposal of the Distribution Licensee in its retail supply Tariff Petition, supported by adequate justification:

Provided that the consumers of all Categories having Sanctioned Load up to 10 kW shall be exempted from payment of Grid Support Charges for Net Metering systems:

11.6 The Distribution Licensee shall accept the power as per the Useful Life of the Renewable Energy Generating System, unless the Eligible Consumer ceases to be a consumer of the Licensee or the Renewable Energy Generating System is abandoned earlier.

11.7 In case the Eligible Consumer leaves the system or changes the Supply Licensee, the excess electricity shall be considered in the following manner:

- a) The unadjusted Units as on date of leaving the system or changing the Supply Licensee shall be compensated at the Generic Tariff, and adjusted along with the final bill settlement with the existing Supply Licensee;
- b) Any injection of electricity without entering into a new Net Metering Agreement with the new Supply Licensee shall be considered as inadvertent injection and shall not be paid for by the new Supply Licensee.

11.8 The Eligible Consumer shall have recourse, in case of any dispute with the Distribution Licensee regarding billing, to the mechanism specified by the Commission under Sections (5) to (7) of the Act for the redressal of grievances:

Provided that in case of any dispute with the Distribution Licensee with regard to

implementation of Regulation 5.2 of these Regulations, the concerned Consumer Grievance Redressal Forum may take assistance on technical matters from any Independent Advisor empanelled with the Maharashtra Energy Development Agency (MEDA).

12 Net Billing - Energy Accounting and Settlement

12.1 Net billing is the arrangement where the Renewable Energy Generating Station is:

- a) Installed to serve a specific consumer,
- b) Connected on the Distribution Licensee side or consumer side of the consumer meter,
- c) Selling entire power generated to a Distribution Licensee under Power Purchase Agreement:

Provided that if the Renewable Energy Generating Station is connected on the consumer side of the consumer meter, then the consumer shall have to replace the consumer meter with a Net Meter.

12.2 The accounting of electricity exported and imported by the Eligible Consumer shall become effective from the date of connectivity of the Renewable Energy Generating System with the distribution network.

12.3 The Distribution Licensee shall undertake meter reading of both, the Renewable Energy Generation Meter and the Consumer Meter or Net Meter, as applicable, for all Eligible Consumers, according to the regular metering cycle.

12.4 For each Billing Period, the Distribution Licensee shall make the following information available on its bill to the Eligible Consumer:

- a) Quantum of Renewable Energy generation recorded in the Renewable Energy Generation Meter, including opening and closing balance;
- b) Quantum of electricity units consumed by the Consumer in the billing period, including opening and closing balance;
- c) Amount of billing credit, if any, in the billing period, including opening and closing balance;
- d) Renewable Energy generation units used by the Distribution Licensee for RPO compliance.

12.5 The Distribution Licensee shall enter into Power Purchase Agreement at the APPC approved for the respective period by the Commission:

Provided that the APPC stipulated in the Power Purchase Agreement shall be constant for the entire duration of the Agreement.

12.6 The Distribution Licensee shall raise bill on the Consumer in accordance with the following equation:

$$\text{Energy Bill of consumer} = \text{Fixed Charges} + \text{other applicable charges and levies} + (E_{DL} \times T_{RST}) - (E_{RE} * T_{PPA}) - \text{Billing Credit};$$

Where:

- a) Fixed Charges means the Fixed/Demand Charges as applicable to the consumer category as per the applicable retail supply Tariff Order;
- b) Other charges and levies mean any other charges such as municipal tax, cess, etc.;
- c) E_{RE} means the energy units recorded for the billing period by the Renewable Energy Generation Meter;
- d) T_{PPA} means the energy charges as per the Power Purchase Agreement signed between the Consumer and Distribution Licensee, in accordance with Regulation 12.5;
- e) E_{DL} means the energy units supplied (i.e., Gross Electricity Consumption by the Consumer) by the Distribution Licensee as recorded by the consumer meter for the billing period;
- f) T_{RST} means the applicable retail supply tariff of the concerned consumer category as per the applicable retail supply Tariff Order of the Commission;
- g) Billing Credit is the amount by which the value of Renewable Energy generation in a particular month is more than the value of all other components of consumer bill.

13 Energy Accounting during meter defect/failure/burnt

13.1 In case of defective/failure/burnt condition of any meter, the Distribution Licensee shall replace the meter as specified in the Electricity Supply Code.

13.2 The electricity generated by the Renewable Energy Generating System during the period in which the meter is defective shall be determined based on the readings of the Check Meter:

Provided that if the Check Meter is not installed, then the electricity generated shall be considered equal to the average monthly generation in the last one year or such shorter period as available.

13.3 The consumption of the Consumer during the period in which the Consumer meter or Net

Meter is defective shall be determined as specified in the Electricity Supply Code.

14 Renewable Purchase Obligation

14.1 The quantum of electricity consumed by the Eligible Consumer from the Renewable Energy Generating System under the Net Metering Arrangement shall qualify towards his compliance of RPO, if such Consumer is an Obligated Entity.

14.2 The quantum of electricity consumed by the Eligible Consumer from the Renewable Energy Generating System under the Net Metering arrangement shall, if such Consumer is not an Obligated Entity, qualify towards meeting the RPO of the Distribution Licensee.

14.3 All units of Renewable Energy purchased by the Distribution Licensee shall qualify towards meeting its RPO.

14.4 Under the Net Billing Arrangement, the entire quantum of electricity recorded by the Generation Meter shall qualify towards meeting the RPO of the Distribution Licensee.

15 Eligibility under Renewable Energy Certificate mechanism

The Renewable Energy generated by an Eligible Consumer under the Net Metering Arrangement or the Net Billing Arrangement under these Regulations shall not be eligible for issuance of Renewable Energy Certificate.

PART D - MISCELLANEOUS

16 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, relax or waive any of the provisions of these Regulations on its own motion or on an application made to it by any interested person.

17 Issue of Orders and Practice Directions

Subject to the provisions of the Act, the Commission may from time to time issue Orders and Practice Directions with regard to the implementation of these Regulations.

18 Power to amend

The Commission may, at any time, vary, alter, modify or amend any provisions of these Regulations, for reasons to be recorded in writing.

19 Power to remove difficulties

If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by general or specific Order, make such provisions not inconsistent with the provisions of the Act as may appear to it to be necessary for removing such difficulty.

20 Repeal and Savings

Save as otherwise provided in these Regulations, the Maharashtra Electricity Regulatory Commission (Net Metering for Rooftop Solar Photo Voltaic Systems) Regulations, 2015 are hereby repealed:

Provided that Renewable Energy Generating Systems covered under the Maharashtra Electricity Regulatory Commission (Net Metering for Rooftop Solar Photo Voltaic Systems) Regulations, 2015, shall continue to be governed by the aforesaid Regulations till validity of the Agreement signed under the aforesaid Regulations.

(Abhijit Deshpande)

Secretary,

Maharashtra Electricity Regulatory Commission

Mumbai

Dated: 30 December, 2019

Procedure for Application for connectivity of Renewable Energy Generating System with Distribution Licensee's Network

- a. A consumer intending to set up a Renewable Energy Generating System or who has already installed such a System may submit the online Application Form available on the concerned Distribution Licensee's website and submit all technical details of the System and pay the fee online.
- b. The Distribution Licensee shall register the Application and acknowledge its receipt within three working days; or intimate the Applicant within that period of any deficiency or incompleteness.
- c. The Distribution Licensee shall conduct a technical feasibility study within 15 working days from the registration of the Application, considering the following aspects:
 - i) AC Voltage level at which connectivity is sought;
 - ii) Sanctioned Load / Contract Demand of the Applicant;
 - iii) Rated Output AC Voltage of the proposed Renewable Energy Generating System;
 - iv) Available cumulative capacity of relevant Distribution Transformer.
- d. Before rejecting any application for setting up a Renewable Energy Generating System at a particular Distribution Transformer, the Distribution Licensee shall serve the Applicant with a notice to rectify, within 15 days or such longer period as may be necessary, the deficiencies.
- e. If found technically feasible, the Distribution Licensee shall, within 7 working days of the completion of the feasibility study, convey its approval for installing the Renewable Energy Generating System. The approval shall indicate the maximum permissible capacity of the System, and shall be valid for a period of 6 months from the date of approval, or such extended period as may be agreed to by the Distribution Licensee.
- f. The Applicant shall, within the period of validity of such approval, submit the work completion report, along with relevant details (such as technical specifications, test reports received from manufacturer / system provider, etc.), with a request to the Distribution Licensee for the testing and commissioning of the Renewable Energy Generating System.
- g. The Distribution Licensee shall complete the testing and commissioning of the System within 10 working days from receipt of such request, and shall install the Net Metering equipment, if applicable, and synchronise the Renewable Energy Generating System within 10 working days thereafter.

- h. The Eligible Consumer and Distribution Licensee shall enter into a Net Metering Connection Agreement or the Net Billing Connection Agreement, as the case may be, in the prescribed format after the Renewable Energy Generating System is installed but before it is synchronized with the distribution network.

**Model Application Form for installation of Renewable Energy Generating System under
Net Metering Arrangement or Net Billing Arrangement**

Name of Distribution Licensee [_____]

Name of Administrative Office [_____]

Application. No. _____

Date of Receipt _____

(To be filled by the Applicant in block letters)

1	Applicant's Full Name	
2	Address of the premises at which Renewable Energy Generating System is to be installed	
3	Mobile Number	
4	E-mail ID	
5	Alternate Address for communication (if any)	
6	Category of existing electricity connection	
7	Consumer Number	
8	Sanctioned Load / Contract Demand (in kW /kVA/ HP)	
9	Voltage at which existing supply has been given (in volts)	
10	Proposed AC capacity of Renewable Energy Generating System to be installed (in kW)	
11	Voltage at the output of Renewable Energy inverter (in volts)	
12	Details of Registration Fee paid: (System generated reference number only)	

Date: _____

Signature of Applicant

List of documents attached with Application Form (To be uploaded – No physical copies)

1. Copy of the latest paid electricity bill.
2. General Power of Attorney in favour of signatory in case of Partnership Firms; certified true copy of the Resolution, authorizing the signatory to deal with the concerned Distribution Licensee, passed by the Board of Directors in case of Companies (as applicable).
3. Technical details of Renewable Energy Generating Station, Inverter and other equipment of System proposed to be installed.
4. Proof of payment of Registration Fee.

.....

ACKNOWLEDGEMENT (Web Enabled System Generated Receipt)

Received an Application from for connectivity/ installation of Renewable Energy Generating System of capacity of..... kW as per details below:

Date of receipt	Applicant's Name	Application Number	Existing Consumer No.	Capacity of Renewable Energy Generating System

Date:

(Signature and designation of authorized officer)

Model Net Metering Connection Agreement

This Agreement is made and entered into at (location) _____ on this (date) _____ day of (month) _____ (year) _____ between the Eligible Consumer (Name) _____ having _____ premises _____ at (address) _____ and Consumer No. _____ as the first Party,

AND

the Distribution Licensee _____ (hereinafter referred to as ‘the Licensee’) and having its Registered Office at (address) _____ as second Party of this Agreement.

Whereas the Eligible Consumer has applied to the Licensee for approval of a Net Metering Arrangement under the provisions of the Maharashtra Electricity Regulatory Commission (Grid Interactive Renewable Energy Generating Systems) Regulations, 2019 (‘the Grid Interactive Renewable Regulations’) and sought its connectivity to the Licensee’s distribution Network;

And whereas the Licensee has agreed to provide Network connectivity to the Eligible Consumer for injection of electricity generated from its Renewable Energy Generating System of _____ kilowatt;

Both Parties hereby agree as follows:

1 Eligibility

The Renewable Energy Generating System meets the applicable norms for being integrated into the distribution network, and that the Eligible Consumer shall maintain the System accordingly for the duration of this Agreement.

2 Technical and Inter-connection Requirements

2.1 The metering arrangement and the inter-connection of the Renewable Energy Generating System with the Network of the Licensee shall be as per the provisions of the Grid Interactive Renewable Regulations, and the technical standards and norms specified by the Central Electricity Authority for connectivity of distributed generation resources and for the installation and operation of meters.

2.2 The Eligible Consumer agrees, that he shall install, prior to connection of the Renewable

Energy Generating System to the Network of the Licensee, an isolation device (both automatic and in-built within inverter and external manual relays); and the Licensee shall have access to it if required for the repair and maintenance of the distribution Network.

- 2.3 The Licensee shall specify the interface/inter-connection point and metering point.
- 2.4 The Eligible Consumer shall furnish all relevant data, such as voltage, frequency, circuit breaker, isolator position in his System, as and when required by the Licensee.

3 Safety

- 3.1 The equipment connected to the Licensee's distribution System shall be compliant with relevant International (IEEE/IEC) or Indian standards (BIS), as the case may be, and the installation of electrical equipment shall comply with the requirements specified by the Central Electricity Authority regarding safety and electricity supply.
- 3.2 The design, installation, maintenance and operation of the Renewable Energy Generating System shall be undertaken in a manner conducive to the safety of the Renewable Energy Generating System as well as the Licensee's Network.
- 3.3 If, at any time, the Licensee determines that the Eligible Consumer's Renewable Energy Generating System is causing or may cause damage to and/or results in the Licensee's other consumers or its assets, the Eligible Consumer shall disconnect the Renewable Energy Generating System from the distribution Network upon direction from the Licensee, and shall undertake corrective measures at his own expense prior to re-connection.
- 3.4 The Licensee shall not be responsible for any accident resulting in injury to human beings or animals or damage to property that may occur due to back-feeding from the Renewable Energy Generating System when the grid supply is off. The Licensee may disconnect the installation at any time in the event of such exigencies to prevent such accident.

4 Other Clearances and Approvals

The Eligible Consumer shall obtain any statutory approvals and clearances that may be required, such as from the Electrical Inspector or the municipal or other authorities, before connecting the Renewable Energy Generating System to the distribution Network.

5 Period of Agreement, and Termination

- 5.1 This Agreement shall be for a period for 20 years, but may be terminated prematurely
 - a) By mutual consent; or

- b) By the Eligible Consumer, by giving 90 days' notice to the Licensee;
- c) By the Licensee, by giving 30 days' notice, if the Eligible Consumer breaches any terms of this Agreement or the provisions of the Grid Interactive Rooftop Renewable Energy Generating Systems Regulations and does not remedy such breach within 30 days, or such other reasonable period as may be provided, of receiving notice of such breach, or for any other valid reason communicated by the Licensee in writing;
- d) By the Licensee, by giving 30 days' notice, if the Eligible Consumer fails to pay his dues in a timely manner or indulges in any malpractices.

6 Access and Disconnection

- 6.1 The Eligible Consumer shall provide access to the Licensee to the metering equipment and disconnecting devices of Renewable Energy Generating System, both automatic and manual, by the Eligible Consumer.
- 6.2 If, in an emergent or outage situation, the Licensee cannot access the disconnecting devices of the Renewable Energy Generating System, both automatic and manual, it may disconnect power supply to the premises.
- 6.3 Upon termination of this Agreement under Clause 5, the Eligible Consumer shall disconnect the Renewable Energy Generating System forthwith from the Network of the Licensee.

7 Liabilities

- 7.1 The Parties shall indemnify each other for damages or adverse effects of either Party's negligence or misconduct during the installation of the Renewable Energy Generating System, connectivity with the distribution Network and operation of the System.
- 7.2 The Parties shall not be liable to each other for any loss of profits or revenues, business interruption losses, loss of contract or goodwill, or for indirect, consequential, incidental or special damages including, but not limited to, punitive or exemplary damages, whether any of these liabilities, losses or damages arise in contract, or otherwise.

8 Commercial Settlement

- 8.1 The commercial settlements under this Agreement shall be in accordance with the Grid Interactive Renewable Regulations.
- 8.2 The Licensee shall not be liable to compensate the Eligible Consumer if his Renewable Energy Generating System is unable to inject surplus power generated into the Licensee's Network on account of failure of power supply in the grid/Network.

- 8.3 The existing metering System, if not in accordance with the Grid Interactive Renewable Regulations, shall be replaced by a bi-directional meter (whole current/CT operated) and a separate Renewable Energy Generation Meter shall be provided to measure Renewable Energy generation. The bi-directional meter (whole current/CT operated) shall be installed at the inter-connection point to the Licensee's Network for recording export and import of energy.
- 8.4 The uni-directional and bi-directional meters shall be fixed in separate meter boxes in the same proximity.
- 8.5 The energy generated by the Renewable Energy Generating Station shall be offset against the energy consumption of the consumer from the Distribution Licensee in the following manner:
- a) If the quantum of electricity exported exceeds the quantum imported during the Billing Period, the excess quantum shall be carried forward to the next Billing Period as credited Units of electricity;
 - b) If the quantum of electricity Units imported by the Eligible Consumer during any Billing Period exceeds the quantum exported, the Distribution Licensee shall raise its invoice for the net electricity consumption after adjusting the credited Units;
 - c) The unadjusted net credited Units of electricity as at the end of each financial year shall be purchased by the Distribution Licensee at the Generic Tariff approved by the Commission for that year, within the first month of the following year:
Provided that, at the beginning of each Settlement Period, the cumulative quantum of injected electricity carried forward will be re-set to zero;
 - d) In case the Eligible Consumer is within the ambit of Time of Day (ToD) tariff, the electricity consumption in any time block, i.e. peak hours, off-peak hours, etc., shall be first compensated with the quantum of electricity injected in the same time block; any excess injection over and above the consumption in any other time block in a Billing Cycle shall be accounted as if the excess injection had occurred during off-peak hours;
 - e) The Distribution Licensee shall compute the amount payable to the Eligible Consumer for the excess Renewable Energy purchased by it as specified in Clause 8.5 (c), and shall provide credit equivalent to the amount payable in the immediately succeeding Billing Cycle.

9 Connection Costs

The Eligible Consumer shall bear all costs related to the setting up of the Renewable Energy Generating System, including the cost of the Renewable Energy Generation Meter.

10 Dispute Resolution

10.1 Any dispute arising under this Agreement shall be resolved promptly, in good faith and in an equitable manner by both the Parties.

10.2 The Eligible Consumer shall have recourse to the concerned Consumer Grievance Redressal Forum constituted under the relevant Regulations in respect of any grievance regarding billing, which has not been redressed by the Licensee.

In the witness, where of (Name) _____ for and on behalf of Eligible Consumer) and (Name) _____ for and on behalf of _____ (Licensee) agree to this agreement.

Model Net Billing Connection Agreement

This Agreement is made and entered into at (location) _____ on this (date) _____ day of (month) _____ (year) _____ between the Eligible Consumer (Name) _____ having _____ premises _____ at (address) _____ and Consumer No. _____ as the first Party,

AND

the Distribution Licensee _____ (hereinafter referred to as ‘the Licensee’) and having its Registered Office at (address) _____ as second Party of this Agreement.

Whereas the Eligible Consumer has applied to the Licensee for approval of a Net Billing Arrangement under the provisions of the Maharashtra Electricity Regulatory Commission (Grid Interactive Renewable Energy Generating Systems) Regulations, 2019 (‘the Grid Interactive Renewable Regulations’) and sought its connectivity to the Licensee’s distribution Network;

And whereas the Licensee has agreed to provide Network connectivity to the Eligible Consumer for injection of electricity generated from its Renewable Energy Generating System of _____ kilowatt;

Both Parties hereby agree as follows:

1 Eligibility

The Renewable Energy Generating System meets the applicable norms for being integrated into the distribution network, and that the Eligible Consumer shall maintain the System accordingly for the duration of this Agreement.

2 Technical and Inter-connection Requirements

2.1 The metering arrangement and the inter-connection of the Renewable Energy Generating System with the Network of the Licensee shall be as per the provisions of the Grid Interactive Renewable Regulations, and the technical standards and norms specified by the Central Electricity Authority for connectivity of distributed generation resources and for the installation and operation of meters.

- 2.2 The Eligible Consumer agrees, that he shall install, prior to connection of the Renewable Energy Generating System to the Network of the Licensee, an isolation device (both automatic and in-built within inverter and external manual relays); and the Licensee shall have access to it if required for the repair and maintenance of the distribution Network.
- 2.3 The Licensee shall specify the interface/inter-connection point and metering point.
- 2.4 The Eligible Consumer shall furnish all relevant data, such as voltage, frequency, circuit breaker, isolator position in his System, as and when required by the Licensee.

3 Safety

- 3.1 The equipment connected to the Licensee's distribution System shall be compliant with relevant International (IEEE/IEC) or Indian standards (BIS), as the case may be, and the installation of electrical equipment shall comply with the requirements specified by the Central Electricity Authority regarding safety and electricity supply.
- 3.2 The design, installation, maintenance and operation of the Renewable Energy Generating System shall be undertaken in a manner conducive to the safety of the Renewable Energy Generating System as well as the Licensee's Network.
- 3.3 If, at any time, the Licensee determines that the Eligible Consumer's Renewable Energy Generating System is causing or may cause damage to and/or results in the Licensee's other consumers or its assets, the Eligible Consumer shall disconnect the Renewable Energy Generating System from the distribution Network upon direction from the Licensee, and shall undertake corrective measures at his own expense prior to re-connection.
- 3.4 The Licensee shall not be responsible for any accident resulting in injury to human beings or animals or damage to property that may occur due to back-feeding from the Renewable Energy Generating System when the grid supply is off. The Licensee may disconnect the installation at any time in the event of such exigencies to prevent such accident.

4 Other Clearances and Approvals

The Eligible Consumer shall obtain any statutory approvals and clearances that may be required, such as from the Electrical Inspector or the municipal or other authorities, before connecting the Renewable Energy Generating System to the distribution Network.

5 Period of Agreement, and Termination

- 5.1 This Agreement shall be for a period for 20 years, but may be terminated prematurely

- a) By mutual consent; or
- b) By the Eligible Consumer, by giving 90 days' notice to the Licensee;
- c) By the Licensee, by giving 30 days' notice, if the Eligible Consumer breaches any terms of this Agreement or the provisions of the Grid Interactive Rooftop Renewable Energy Generating Systems Regulations and does not remedy such breach within 30 days, or such other reasonable period as may be provided, of receiving notice of such breach, or for any other valid reason communicated by the Licensee in writing;
- d) By the Licensee, by giving 30 days' notice, if the Eligible Consumer fails to pay his dues in a timely manner or indulges in any malpractices.

6 Access and Disconnection

- 6.1 The Eligible Consumer shall provide access to the Licensee to the metering equipment and disconnecting devices of Renewable Energy Generating System, both automatic and manual, by the Eligible Consumer.
- 6.2 If, in an emergent or outage situation, the Licensee cannot access the disconnecting devices of the Renewable Energy Generating System, both automatic and manual, it may disconnect power supply to the premises.
- 6.3 Upon termination of this Agreement under Clause 5, the Eligible Consumer shall disconnect the Renewable Energy Generating System forthwith from the Network of the Licensee.

7 Liabilities

- 7.1 The Parties shall indemnify each other for damages or adverse effects of either Party's negligence or misconduct during the installation of the Renewable Energy Generating System, connectivity with the distribution Network and operation of the System.
- 7.2 The Parties shall not be liable to each other for any loss of profits or revenues, business interruption losses, loss of contract or goodwill, or for indirect, consequential, incidental or special damages including, but not limited to, punitive or exemplary damages, whether any of these liabilities, losses or damages arise in contract, or otherwise.

8 Commercial Settlement

- 8.1 The commercial settlements under this Agreement shall be in accordance with the Grid Interactive Renewable Regulations.
- 8.2 The entire units generated by the Renewable Energy Generating Station in the billing period shall be purchased by the Distribution Licensee at Rs. _____ per kWh for the entire duration of the Agreement.

- 8.3 The Licensee shall not be liable to compensate the Eligible Consumer if his Renewable Energy Generating System is unable to inject surplus power generated into the Licensee's Network on account of failure of power supply in the grid/Network.
- 8.4 The existing metering System shall be continued, and a separate Renewable Energy Generation Meter may be provided to measure Renewable Energy generation.
- 8.5 The Licensee shall issue monthly electricity bill for the energy consumed by the Consumer on the scheduled date of meter reading. The Licensee shall bill the Consumer for the consumption after giving due credit for the Renewable Energy generation, as specified in the Grid Interactive Renewable Regulations.

9 Connection Costs

The Eligible Consumer shall bear all costs related to the setting up of the Renewable Energy Generating System, excluding the cost of the Renewable Energy Generation Meter.

10 Dispute Resolution

- 10.1 Any dispute arising under this Agreement shall be resolved promptly, in good faith and in an equitable manner by both the Parties.
- 10.2 The Eligible Consumer shall have recourse to the concerned Consumer Grievance Redressal Forum constituted under the relevant Regulations in respect of any grievance regarding billing, which has not been redressed by the Licensee.

In the witness, where of (Name) _____ for and on behalf of Eligible Consumer) and (Name) _____ for and on behalf of _____ (Licensee) agree to this agreement.

Prior Intimation for Installation of Renewable Energy Generator behind the Consumer’s Meter

Date

Place

[To be addressed to concerned Authority of Distribution Licensee]

To,

.....
.....
.....

Subject: Prior Intimation for Installation of Renewable Energy Generator facility behind the meter

Sir/Madam,

I undersigned [Name of consumer]....., having Consumer Account No., is giving the prior intimation, as per Maharashtra Electricity Regulatory Commission (Grid Interactive Renewable Energy Generating Systems) Regulations, 2019, for installation of Renewable Energy system to be connected behind my meter having Meter No.

I hereby submit the following details:

- (a) Consumer Account No. :
- (b) Consumer Category :
- (c) Connected Load (kW)/ Contract Demand (kVA) :
- (d) Capacity of Renewable Energy System :
- (e) Type of Renewable Energy System :
.....(Solar/Wind/Biomass, etc.)
- (f) Interconnection point :
- (g) Whether the load is separated for Renewable Energy System : Yes/No
- (h) Whether the Renewable Energy system is to be connected in parallel to Distribution system :Yes/No

Yours faithfully,

(Signature)

Name:

Address:

Contact No. :

Distribution Transformer-wise capacity Details**(To be updated on quarterly basis)**

Details as on _____

Transformer Code	Location of Transformer	Name Plate Capacity (kVA)	Peak Load during last Financial Year (kVA)	Peak Load during last Quarter	Cumulative capacity of connected RE Generating System (kW/kVA)