

**RAJASTHAN ELECTRICITY REGULATORY COMMISSION****NOTIFICATION****Jaipur, April 08, 2021**

**No. RERC/Secy/Reg – 144** In exercise of powers conferred under Section 181 read with Sections 61, 66, 86(1)(e) of the Electricity Act, 2003 (Act 36 of 2003) and all other provisions enabling it in this behalf, the Rajasthan Electricity Regulatory Commission after previous publication, hereby makes the following Regulations for Grid Interactive Distributed Renewable Energy Generating Systems.

**1 Short title, extent and commencement**

- 1.1 These Regulations shall be called the Rajasthan Electricity Regulatory Commission (Grid Interactive Distributed Renewable Energy Generating Systems) Regulations, 2021.
- 1.2 These Regulations shall extend to the whole State of Rajasthan.
- 1.3 These Regulations shall come into force from the date of their publication in the Official Gazette.
- 1.4 These Regulations shall remain in force along with the Rajasthan Electricity Regulatory Commission (Connectivity and Net Metering for Rooftop and Small Solar Grid Interactive Systems) Regulations, 2015 and subsequent amendments thereof:

Provided that, Rooftop and Small Solar Grid Interactive Systems commissioned under Net Metering agreements up to 30<sup>th</sup> June 2021 shall be governed as per the Rajasthan Electricity Regulatory Commission (Connectivity and Net Metering for Rooftop and Small Solar Grid Interactive Systems) Regulations, 2015 and subsequent amendments thereof.

**2 Definitions**

- 2.1 In these Regulations, unless the context otherwise requires,
  - (a) “Act” means The Electricity Act, 2003 (36 of 2003) and subsequent amendments thereof;
  - (b) “Billing cycle or billing period” means the period for which regular electricity bills as stipulated by the Commission, are prepared for different categories of consumers by the Licensee;
  - (c) “Check meter” means a meter, which shall be connected to the same core of the Current Transformer (CT) and Voltage Transformer (VT) to which main meter is connected and shall be used for accounting and billing of electricity in case of failure of the main Net Meter or RE Generation Meter;
  - (d) “Commission” means Rajasthan Electricity Regulatory Commission constituted under the Act;
  - (e) “Connected Load” shall mean the sum of rated capacities of all the electricity energy

consuming devices on the consumer's premises, which can be operated simultaneously. For the purpose of levy of any charges and for deciding the supply voltage, the Connected Load shall be determined as per method prescribed in the Rajasthan Electricity Regulatory Commission (Electricity Supply Code and Connected Matters) Regulations, 2021 and subsequent amendments thereto;

- (f) "Connection Agreement" means the agreement entered into between the Distribution Licensee and the consumer;
- (g) "Contract Demand" for the purpose of the Regulations 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 with the Distribution Licensee in accordance with the Rajasthan Electricity Regulatory Commission (Electricity Supply Code and Connected Matters) Regulations, 2021 and subsequent amendments thereto or equal to the Sanctioned Load, where the Contract Demand has not been provided in such agreement;
- (h) "Distribution Licensee" or "Licensee" means a person granted a licence under Section 14 of the Act or deemed Licensee as per Section 14 of the Act authorizing him to operate and maintain a distribution system for supplying electricity to the consumers in his area of supply;
- (i) "Electricity Supply Code" means the Electricity Supply Code specified under Section 50 of the Act and subsequent amendments thereof;
- (j) "Eligible Consumer" means a consumer of electricity in the area of supply of the Distribution Licensee, who uses or proposes to use a Renewable Energy generating system installed in the consumer premises, to offset all or part or no part of the consumer's own electrical requirements, given that such systems may be owned and/or operated by such consumer or Distribution Licensee or RESCO;
- (k) "Financial year" or "year" means the period beginning from first day of April in an English calendar year and ending with the thirty first day of March of the next year;
- (l) "Interconnection Point" means interface of 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 case of an Eligible Consumer connected at the High Tension (HT) level, the "Interconnection Point" shall mean the interface of the Renewable Energy Generating System with the outgoing terminals of the Distribution Licensees' metering cubicle placed before such consumer's apparatus;
- (m) "Invoice" means either a periodic bill / supplementary bill or a periodic Invoice/ supplementary invoice raised by the Distribution Licensee;
- (n) "kVAh" means kilo volt ampere hour;
- (o) "kWp" means kilo watt peak;
- (p) "MNRE" means Ministry of New and Renewable Energy, Government of India;
- (q) "Net Billing" means an arrangement under which energy generated by the 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 retail supply tariff, after giving credit for total generated electricity at the applicable Tariff;

- (r) “Net meter” means a bi-directional energy meter capable of recording both import and export of electricity or a pair of meters one each for recording the import and export of electricity, as the case may be;
- (s) “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;
- (t) “Obligated Entity” means the entity mandated under clause (e) of sub-Section (1) of Section 86 of the Act to fulfil the renewable purchase obligation and identified under RERC (Renewable Energy Certificate and Renewable Purchase Obligation Compliance Framework) Regulations, 2010, as amended from time to time;
- (u) “Premises” means rooftops or/and areas on the land, building or infrastructure or part or combination thereof in respect of which a separate meter or metering arrangements have been made by the Licensee for supply of electricity;
- (v) “Renewable Energy Certificate (REC)” means the certificate issued in accordance with the Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 and subsequent amendments thereof;
- (w) “Renewable Energy Generating System” means the generating systems other than conventional generating systems, generating electricity from Renewable Energy Sources with or without storage;
- (x) “Renewable Energy Sources” means renewable source of energy such as water, wind, sunlight, biomass, bagasse, municipal solid waste and any other such sources as approved by the MNRE from time to time;
- (y) “RESCO” means Renewable Energy Service Company, which owns a Renewable Energy System and provides renewable energy to the consumer:  
Provided that the Distribution Licensee may act as a RESCO. However, this business shall be treated as other business of the Distribution Licensee;
- (z) “RE Generation Meter” means an energy meter used for measuring the energy generated by Renewable Energy generating system for the purpose of accounting and billing;
- (aa) “Sanctioned Load” means the demand in kilowatt (‘kW’) or Horse Power (‘HP’), as mutually agreed between the Distribution Licensee and the consumer;
- (bb) “Settlement Period” means the period at the end of which Net Metering/ Net Billing settlement between the Distribution Licensee and the consumer takes place, generally 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;
- (cc) ‘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;

2.2 The words and expressions used in these Regulations and not defined herein, but defined in the Act or any other Regulations of the Commission, shall have the meaning assigned to them under the Act or any other Regulations of the Commission.

2.3 Abbreviations used in these Regulations shall have the meanings as stated in **Annexure – I.**

### **3 Scope and Applicability**

3.1 These Regulations shall apply to the Distribution Licensee and consumers availing supply from such Distribution Licensee, in its area of supply in the State of Rajasthan.

3.2 These Regulations shall apply to:

- (a) Net Metering arrangements;
- (b) Net Billing arrangements;
- (c) Grid Interactive Distributed Renewable Energy generating systems connected behind the meter and operating in parallel with Distribution Licensees' grid and who have not opted either for Net Metering arrangement or Net Billing arrangement:

Provided that, the eligibility for Net Metering arrangement shall be as stipulated under the Electricity (Rights of Consumers) Rules, 2020, as amended from time to time:

Provided further that, for the purpose of implementation of the Electricity (Rights of Consumers) Rules, 2020 the Commission may issue necessary directions or orders, if need be, as and when required.

Provided also that the Net Metering arrangement for the eligible consumers shall be allowed subject to technical feasibility:

Provided also that, co-located Renewable Energy based captive power plants up to one mega-watt installed capacity may opt to be set up under these Regulations or the Rajasthan Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020:

Provided also that such option, once exercised, cannot be changed.

3.3 The Eligible Consumer may install the Renewable Energy generating system under the Net Billing arrangement or Net Metering arrangement, subject to the proviso under Regulation 3.2 which,

- (a) shall be within the permissible technical limits as defined under these Regulations;
- (b) shall be located in the consumer premises;
- (c) shall interconnect at the same interconnection point of consumer premises and operate safely in parallel with the Distribution Licensee's network.

3.4 These Regulations shall be applicable to all Grid interactive Distributed Renewable Energy generating systems that are commissioned on or after 1<sup>st</sup> July 2021:

Provided that, Rooftop and Small Solar Grid Interactive Systems commissioned under Net Metering agreements up to 30<sup>th</sup> June 2021, shall continue to operate under the Net Metering arrangement till the period of Connection Agreement, as per the provisions of the Rajasthan Electricity Regulatory Commission (Connectivity and Net Metering for Rooftop and Small Solar Grid Interactive Systems) Regulations, 2015 and subsequent amendments thereof:

Provided further that, the consumer, who has opted for Net Metering arrangement prior to or after notification of these Regulations, shall be allowed to enter into Net Billing arrangement only after termination of existing Connection Agreement under Net Metering arrangement.

- 3.5 These Regulations do not preclude the right of State Nodal Agency or Distribution Licensee of the State to undertake Renewable Energy generating system of one megawatt and above capacity through alternative mechanisms.

#### **4 General Principles**

- 4.1 The Distribution Licensee shall offer the provision of Net Billing arrangement or Net Metering arrangement to the Eligible Consumer, who intends to install Grid Interactive Distributed Renewable Energy generating system in its area of supply on non-discriminatory and 'first come first serve' basis:

Provided that, the Consumer is eligible to install the Grid Interactive Distributed Renewable Energy generating systems subject to the technical limitations as specified under these Regulations:

Provided further that, the interconnection of such system with the grid is undertaken as specified under these Regulations and in compliance with the Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013, as amended from time to time.

- 4.2 Consumers having pending arrears with the Distribution Licensee shall not be eligible for Net Billing arrangement or Net Metering arrangement under these Regulations:

Provided that, where there is a dispute between the Distribution Licensee and the consumer, relating to any charge for electricity, such consumers shall be allowed Net Metering or Net Billing arrangement pending such resolution of such dispute upon deposit of the disputed amount with the Distribution Licensee in accordance with Section 56 of the Act.

#### **5 Grid interactive Distributed Renewable Energy generating systems set up by RESCO**

- 5.1 As per the provisions of the Electricity Act, 2003, the sale of electricity to individual consumers is only permitted by Distribution Licensee, Trading Licensee or through Open Access. However, in order to promote RE Generation, the Net Metering and Net Billing arrangement through Renewable Energy Service Company (RESCO) owned Renewable Energy generating system shall be permitted:

Provided that, the Eligible Consumer may lease out / rent the Rooftop Space/ Land/ Water bodies to a RESCO on a mutual commercial arrangement for setting up Renewable Energy generating system under Net Billing arrangement or Net Metering arrangement:

Provided further that, under Net Metering and Net Billing Arrangement, RESCO shall enter into a direct agreement with consumer as regards its payment. There will be no

tripartite agreement between RESCO, consumer and Distribution Licensee. Even in case of RESCO, the Net Metering/ Net Billing agreement shall be entered into between Distribution Licensee and eligible consumer:

Provided also that, the dispute between the consumer and the RESCO arising out of contractual obligations under the direct agreement shall be settled mutually by them and shall not be adjudicated by the Commission or Distribution Licensee. The Distribution Licensee shall not be the party to such dispute and shall not disconnect such consumer on the ground arising out of such dispute between consumer and the RESCO.

- 5.2 All provisions under these Regulations shall be applicable for Renewable Energy generating system set up by a RESCO.

## **6 Connectivity of Renewable Energy generating system**

- 6.1 The cumulative capacity of Renewable Energy generating system to be allowed at a particular distribution transformer shall not exceed 50% of the capacity of such distribution transformer or such limit as may be stipulated by the Commission from time to time:

Provided that, in case of HT consumers where the distribution transformer has been installed by the consumer, the limit of 50% of distribution transformer capacity shall not be applicable. The total allowable solar installation capacity for such consumers shall be as per Regulation 7.2 of these Regulations.

- 6.2 The Distribution Licensee shall update the information about distribution transformer level capacity available for connecting Renewable Energy generating system under Net Billing arrangement or Net Metering arrangement on yearly basis and shall provide the information on its website.

## **7 Eligible Consumer and Individual Project Capacity**

- 7.1 All Eligible Consumers of electricity in the area of supply of the Distribution Licensee having or proposing to install a Renewable Energy generating system may opt for grid connectivity under the Net Billing arrangement or Net Metering arrangement in accordance with these Regulations.

- 7.2 The maximum Renewable Energy generating system capacity to be installed at any Eligible Consumer's premises shall not exceed 100% of the Sanctioned Load/Contract Demand of the consumer:

Provided that, the capacity of the Renewable Energy generating system shall be in conformity with the provisions relating to the Sanctioned Load or Contract Demand permissible under the Rajasthan Electricity Regulatory Commission (Electricity Supply Code and Connected Matters) Regulations, 2021 and subsequent amendments thereto.

- 7.3 The capacity of Renewable Energy generating system to be installed at the premises of any Eligible Consumer shall be more than one kilo watt under Net Billing arrangement or Net Metering arrangement subject to the condition as specified in Regulation 7.2:

Provided that, the capacity of Renewable Energy generating system to be installed at the premises of any Eligible Consumer shall be up to one mega-watt under Net Metering arrangement or Net Billing arrangement:

Provided further that, in case the Eligible Consumer intends to install Renewable Energy generating system having capacity of more than one mega-watt, terms and conditions of such arrangement shall be governed as per the Rajasthan Electricity Regulatory Commission (Terms and Conditions for tariff determination from Renewable Energy Sources) Regulations, 2020 and subsequent amendments thereof.

7.4 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 these Regulations.

7.5 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 RE Generation Meter or Net Meter shall be installed on the HT side of the Consumer's Transformer.

7.6 An Eligible Consumer may install or enhance the capacity of, or upgrade the Renewable Energy generating systems at different locations within the same premises after following due procedure and intimating the concerned Distribution Licensee:

Provided that, the total capacity of such systems within the same premises shall not exceed the capacity limits specified in these Regulations.

## **8 Procedure for application**

8.1 The Distribution Licensee shall prominently display on its website and on the notice board in all its offices, the following:

- (a) detailed procedure for grant of new arrangement;
- (b) address and telephone numbers of offices where filled-up application forms can be submitted;
- (c) address of website for online submission of application form;
- (d) complete list of copies of the documents required to be attached with the application;
- (e) all applicable charges to be deposited by the applicant.

8.2 The Distribution Licensee shall implement a web-based application processing system for processing the applications of the Eligible Consumers within three (3) months from the date of notification of these Regulations:

Provided that, the Distribution Licensee shall process the applications received through manual system till such web system is developed:

Provided further that, the Distribution Licensee shall create a web portal and a mobile app for submission of online application forms.

8.3 The Eligible Consumer who proposes to install a Renewable Energy generating system

in his premises shall apply in the application form (**Annexure – II**), which the Distribution Licensee shall notify on its website along with the application fees as specified in the schedule (**Annexure-III**) of these Regulations.

- 8.4 The Consumer shall compulsorily provide details of e-mail address and mobile number, along with the application.
- 8.5 All correspondence by the Distribution Licensee with the Consumer shall be preferably through e-mail and mobile.
- 8.6 The Distribution Licensee shall acknowledge the receipt of the application and register the application and shall process the applications in the order of receipt.
- 8.7 The online application tracking mechanism based on the unique registration number shall be provided by the Distribution Licensee through web-based application or mobile app or through SMS or by any other mode to monitor the status of processing of the application.
- 8.8 Within twenty (20) days from the issuance of acknowledgement of the application, the concerned officer of the respective Sub-divisional office of the Distribution Licensee shall check the technical feasibility of the Renewable Energy generating system.
- 8.9 If technical feasibility is found satisfactory, the Distribution Licensee shall approve the application and intimate the same to the applicant by providing a Letter of Approval (LoA) via email/SMS/post, within thirty (30) days from the issuance of acknowledgement of the application.
- 8.10 In case of any deficiencies found in the application during technical feasibility study, on account of Renewable Energy generating system capacity and available transformer loading as specified under these Regulations, the same shall be intimated by the Distribution Licensee to the applicant through email/SMS/post within twenty (20) working days from the issuance of acknowledgement of the application.
- 8.11 The applicant shall remove all identified deficiencies within a period of fifteen (15) days from the receipt of intimation and intimate the Distribution Licensee about the resolution of deficiencies through email/post:

Provided that, the Distribution Licensee shall assess the resolution of deficiencies and provide LoA to the applicant upon its satisfaction:

Provided further that, in case deficiencies are not removed in the said period, the application shall stand cancelled:

Provided also that, the consumer may make re-application after rectification of deficiencies:

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

- 8.12 After installation of Renewable Energy generating system, the consumer shall submit the installation certificate to the Distribution Licensee. The Distribution Licensee shall complete signing of connection agreement, installation of meter and successful commissioning of the Renewable Energy generating system within the timelines specified by the Commission, which shall not be more than thirty days from the date of submission of the installation certificate. Formats of contract agreement and installation certificate shall be placed on web-portal of the Distribution Licensee.
- 8.13 Consumer shall have the option of purchasing the requisite meter himself, which shall be tested and installed by the Distribution Licensee.
- 8.14 The Eligible Consumer shall install the Renewable Energy generating system within one hundred and eighty (180) days of receiving the LoA, as per the Standards/Codes specified under these Regulations or such extended period as may be agreed to by the Distribution Licensee:

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

## 9 Connection Agreement

- 9.1 The Distribution Licensee and Eligible Consumer shall enter into a Connection Agreement for Net Billing arrangement or Net Metering arrangement, after approval of connectivity of Renewable Energy generating system with the distribution network, but before the start of actual generation from the System.
- 9.2 A model Net Billing Connection Agreement and Net Metering Connection Agreement is provided at **Annexure - IV-A and Annexure - IV-B**, which the Distribution Licensee may modify suitably, subject to consistency with these Regulations.
- 9.3 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.
- 9.4 The Connection Agreement shall remain in force for twenty-five (25) years:
- Provided that, the Connection Agreement entered under Net Metering arrangement prior to notification of these Regulations shall be valid for the period as stipulated in the said Connection Agreement:
- Provided further that, for the Connection Agreement entered under Net Metering arrangement prior to notification of these Regulations, where the validity of the period is not provided in the Connection Agreement, the Net Metering arrangement shall be valid for twenty-five (25) years from the date of entering into the Connection Agreement:
- Provided also that, the Agreement may be terminated at any time by mutual consent.
- 9.5 The Eligible Consumer shall, upon termination of the Agreement, disconnect forthwith its Renewable Energy generating system from the Distribution Licensee's Network.

## 10 Interconnection with the Grid: Standards and Safety

10.1 The Renewable Energy generating system and allied equipment will conform to the standards and requirements specified in these Regulations and in the following Regulations and codes, as amended from time to time:

- (a) Central Electricity Authority (Technical Standards for connectivity of the Distributed Generating Resources) Regulations, 2013;
- (b) Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006;
- (c) Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010;
- (d) RERC (Electricity Supply Code and Connected Matters) Regulations, 2021.

10.2 The consumer shall get the equipment installed at his/her premises by the representative of the supplier to confirm satisfactory working:

Provided that, the equipment of Renewable Energy generating system shall be pre-tested by the supplier and a test certificate for the concerned equipment shall be provided to the consumer:

Provided further that, the tests as per applicable standards shall be done to ensure the quality of power generated from the Renewable Energy generating system.

10.3 The connectivity levels at which the Renewable Energy generating system shall be connected with the grid shall be as per RERC (Electricity Supply Code and Connected Matters) Regulations, 2021, as amended from time to time, subject to Regulation 7.

10.4 The consumer, who installs Renewable Energy generating system, shall be responsible for the safe operation, maintenance and rectification of defect of its system up to the Interconnection Point beyond which, the responsibility of safe operation, maintenance and rectification of any defect in the system including metering arrangement shall rest with the Distribution Licensee:

Provided that, the Distribution Licensee may call upon the Renewable Energy generating system to rectify the defect within a reasonable time.

10.5 The Eligible Consumer shall be solely responsible for any incident (fatal/non-fatal/departmental/non-departmental) that may occur due to back feeding from the Renewable Energy generating system when the grid supply is off:

Provided that, the Distribution Licensee reserves the right to disconnect the consumer's installation at any time in the event of such exigencies to prevent incident or damage to man and material.

10.6 The Eligible Consumer may install Renewable Energy generating system with or without storage:

Provided that, any alternate source of supply shall be restricted to the consumer's

network and the consumer shall be responsible to take adequate safety measures to prevent battery power/diesel generator power/ backup power extending to Distribution Licensee's LT grid on failure of Distribution Licensee's grid supply.

10.7 The Distribution Licensee shall have the right to disconnect the Renewable Energy generating system from its system at any time in the following conditions:

- (a) Emergencies or maintenance requirement on the Distribution Licensee's electric system;
- (b) Hazardous condition existing on the Distribution Licensee's system due to operation of Renewable Energy generating system or protective equipment as determined by the Distribution Licensee/Transmission Licensee/SLDC;
- (c) Adverse electrical effects, such as power quality problems, on the electrical equipment of the other consumers of the Distribution Licensee caused by Renewable Energy generation as determined by the Distribution Licensee.

10.8 The tests as per EN 50160 and as per Distribution Licensee's standards shall be done to ensure the quality of power generated from the Renewable Energy generating system.

10.9 The Renewable Energy generating system should be capable of detecting an unintended islanding condition. These systems should have anti-islanding protection to prevent any unfavourable conditions including failure of supply. IEC- 62116 technical standards shall be followed to test islanding prevention measure for grid connected inverters.

10.10 Every Renewable Energy generating system shall be equipped with automatic synchronization device:

Provided that, Renewable Energy generating system using inverter shall not be required to have separate synchronizing device, if the same is inherently built into the inverter.

10.11 After considering the maintenance and safety procedures, the Distribution Licensee may require a Renewable Energy generating system to provide a manually operated isolating switch between the Renewable Energy generating system and the electricity system, which shall meet following requirements:

- (a) Allow visible verification that separation has been accomplished;
- (b) Include indications to clearly show open and closed positions;
- (c) Be capable of being reached quickly and conveniently twenty-four hours a day by Licensee's personnel without requiring clearance from the applicant;
- (d) Be capable of being locked in the open position; and
- (e) May neither be rated for load break nor may have feature of over-current protection.

10.12 Prior to synchronization of the Renewable Energy generating system for the first time with the electricity system, the applicant and the Licensee shall agree on the protection

features and control diagrams.

10.13 The inverter shall have the features of filtering out harmonics and other distortions before injecting the energy into the system of the Distribution Licensee. The technical standards, power quality standards and inverter standards shall be as per **Annexure – VI** of these Regulations or any other standards as may be specified by CEA from time to time.

#### 10.14 Renewable Energy generating system connected behind the Consumer's Meter

10.14.1 Renewable Energy generating system connected behind the Consumer's meter, operating in parallel with the Distribution Licensee's Grid, and not opting either for Net Billing arrangement or Net Metering 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 CEA are taken:

Provided further that, in case the Consumer installs Renewable Energy generating system behind the Consumer's meter without prior intimation to the respective Distribution Licensee, then the additional liabilities shall be levied at the rate of fixed charges for the period of installation of such system till it comes to notice of Distribution Licensee that such system is installed by the Consumer applicable as per the Tariff Order of Distribution Licensees for the relevant consumer category.

10.14.2 The maximum permissible capacity of an eligible individual Renewable Energy generating system installed behind Consumer's meter shall be limited to 100% of Contract Demand as specified in these Regulations.

10.14.3 The maximum permissible energy that can be consumed from Renewable Energy generating system installed behind Consumer's meter shall be limited to the energy corresponding to the minimum Capacity Utilisation Factor/Plant Load Factor in percent as applicable for respective technology as specified in the Rajasthan Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020 plus 5 percent.

10.14.4 The Consumer shall ensure that no energy is injected into the grid from such Renewable Energy generating system installed behind the Consumer's meter:

Provided that, any quantum of energy injected by such Renewable Energy generating system connected behind the Consumer's meter shall be considered as inadvertent injection and shall neither be paid for nor settled by the Distribution Licensee:

Provided further that, any quantum of energy injected by such Renewable Energy Generating System connected behind the Consumer's meter shall be considered as inadvertent injection and penalty shall be levied on such inadvertent injection as per the applicable relevant Regulations in force.

10.14.5 Apart from Parallel Operation Charges, the Commission may also determine additional Parallel Operation Charges in the form of Fixed Charges or Demand Charges

and any other Charges for such systems installed behind the consumer's meter, 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.

10.14.6 The Consumers, who have connected Solar Rooftop PV systems behind the Consumer's meter and not opted for Net Metering arrangement under RERC (Connectivity and Net Metering for Rooftop and Small Solar Grid Interactive Systems) Regulations, 2015 and subsequent amendments thereof, shall intimate the Distribution Licensee such details in Model Form within three (3) months from the notification of these Regulations:

Provided that, if consumer fails to intimate the details of Solar Rooftop PV system behind the Consumer's meter to the Distribution Licensee within the specified time, the additional liabilities may be levied at the rate of fixed charges, applicable as per the tariff order of Distribution Licensees for the relevant consumer category for such period of delay:

Provided further that, the additional liabilities shall be levied after three (3) months from the notification of these Regulations on monthly basis, as per the tariff order of Distribution Licensees for the relevant consumer category.

10.14.7 The Distribution Licensee may inspect and verify the installation of Renewable Energy generating system behind the Consumer's meter as and when required, in accordance with the provisions of the Act and Regulations made thereunder.

10.14.8 The Model Form, for intimating installation of Renewable Energy generating system behind the meter by the Eligible Consumer to the concerned Licensee, is set out at **Annexure-V** of these Regulations.

## **11 Metering arrangement**

11.1 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.

11.2 All meters shall have Advanced Metering Infrastructure (AMI) facility with RS 485 (or higher) communication port or any other advance communication facility.

11.3 Under Net Billing arrangement, the Renewable Energy generating system shall be connected on Distribution Licensee side of the consumer meter.

11.4 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:

Provided that, the Renewable Energy generating system under Net Metering arrangement shall be connected on consumer side of the consumer meter.

11.5 The Eligible Consumer shall install, at his own cost, a RE Generation Meter conforming to the applicable CEA Regulations at the Interconnection Point of Renewable Energy

generating system, to measure the energy generated from such system.

- 11.6 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:

Provided that, the Consumer shall bear the costs associated with the testing, installation, and maintenance of the metering equipment.

- 11.7 The meters shall be installed as would enable easy access to the Distribution Licensee for meter reading.

- 11.8 The meters installed shall be jointly inspected and sealed on behalf of both the Parties and shall be tested or checked only in the presence of the representatives of the consumer and Distribution Licensee or as per the Supply Code specified by the Commission:

Provided that, the Eligible Consumer shall follow the metering specifications and provisions for placement of meter as developed by the Distribution Licensee from time to time and as per the Supply Code.

- 11.9 The meter readings taken by the Distribution Licensee shall form the basis of billing and commercial settlement.

- 11.10 A consumer, at his own cost, shall also install a Check Meter of appropriate class for the RE Generation Meter:

Provided that, such Check meter shall be used for billing and commercial settlement, in the absence of readings from RE Generation meter on account of defective/failure/burnt condition.

- 11.11 In case of defective/failure/burnt condition of any meter, the Consumer shall report the failure to the Distribution Licensee in the specified format of Distribution Licensee:

Provided that, the Distribution Licensee shall replace the meter as specified in the Supply Code, as amended from time to time.

## **12 Energy Accounting and Settlement**

- 12.1 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.

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

- 12.3 Meter readings shall be taken monthly or as per the billing cycle specified under the applicable Supply Code:

Provided that, in case of defective/failure/burnt condition of the meter, the electricity

generated by Renewable Energy generating system during the period in which the meter is defective, shall be taken from the Check meter:

Provided further that, in case meter readings are not available from the Check meter, the electricity generated by Renewable Energy generating system during the period in which RE Generation Meter as well as Check Meter are defective, shall be as per provisions specified in Electricity Supply Code.

12.4 For each billing period, the Licensee shall show separately the following information on its bill to the Eligible Consumer:

- a) Quantum of Energy generation recorded in the RE 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) The generation units used by the Distribution Licensee for RPO compliance.

## 12.5 Net Billing Arrangement

12.5.1 Net Billing is the arrangement, where the Renewable Energy generating system is:

- (a) Installed to serve a specific consumer;
- (b) Connected on the Distribution Licensee side of the consumer meter;
- (c) Selling entire power generated to the Distribution Licensee under the Connection Agreement at the tariff agreed in the Connection Agreement with the Distribution Licensee, and the amount payable by the Distribution Licensee is reduced from the amount payable by the consumer for electricity supplied by the Distribution Licensee.

12.5.2 The Distribution Licensee shall enter into Connection Agreement at the weighted average tariff discovered through Competitive Bidding for respective technology in previous Financial Year and adopted by the Commission, plus an incentive of 25%. In case no bidding is done in previous Financial Year, then the latest tariff discovered through competitive bidding plus an incentive of 25% shall be applicable:

Provided that, in case no bidding is done for respective technology, the latest weighted average tariff of large-scale solar projects of 5 MW and more, discovered through Competitive Bidding and adopted by the Commission, plus an incentive of 25% shall be applicable:

Provided further that, the above Tariff shall be applicable for the entire duration of the Agreement.

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

Energy Bill of consumer = Fixed Charges + other applicable charges and levies + (EDL x TRST) - (ERE \* TPPA) – 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 duties and taxes, cess, etc.;
- (c) EDL 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;
- (d) TRST means the applicable retail supply tariff of the concerned consumer category as per the applicable retail supply Tariff Order of the Commission;
- (e) ERE means the energy units recorded for the billing period by the RE Generation Meter;
- (f) TPPA means the Tariff as per the Connection Agreement signed between the Consumer and Distribution Licensee, in accordance with Regulation 12.5.2;
- (g) Billing Credit is the cumulative opening credit for a month, if any.

12.5.4 If the value of Renewable Energy generation in a month is more than the value of all other components of consumer bill, then the billing credit shall be provided by Distribution Licensee in the electricity bill for such month:

Provided that, such billing credit shall be carried forward to next month and shall be adjusted as specified in Regulation 12.5.3:

Provided further that, the billing credit at the end of Settlement Period shall be paid by the Distribution Licensee to Eligible Consumer latest by the fifteenth of May of the next Financial Year.

12.5.5 When an Eligible Consumer leaves the system, the available billing credit shall lapse, and no payments shall be made.

12.5.6 The maximum permissible energy that can be generated from Renewable Energy generating system installed under the Net Billing Arrangement shall be limited to the energy corresponding to the minimum Capacity Utilisation Factor/Plant Load Factor in percent as applicable for respective technology as specified in the Rajasthan Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020 plus 5 percent.

12.5.7 For consumers covered under specific Central and/or State Government Schemes, such as PM KUSUM, quantum of energy and rate of purchase by Distribution Licensees shall be as per Order issued by the Commission in this regard.

## 12.6 Net Metering Arrangement

12.6.1 The energy accounting and settlement under Net Metering arrangement shall be as under:

- a) If the quantum of electricity exported by a domestic category consumer exceeds the quantum imported during the Billing Period, the excess quantum exported by such domestic consumer shall be purchased by the Distribution Licensee at the weighted average tariff of large-scale solar projects of 5 MW and more, discovered through Competitive Bidding in last Financial Year, and adopted by the Commission. In case no bidding is done in previous Financial Year, then the latest tariff discovered through competitive bidding shall be applicable. The total amount arrived for excess energy injected by such consumer shall be adjusted in the form of credit equivalent to such amount payable in the immediately succeeding billing cycle:

Provided that, even in case of Domestic consumers having existing Net Metering installations governed as per the Rajasthan Electricity Regulatory Commission (Connectivity and Net Metering for Rooftop and Small Solar Grid Interactive Systems) Regulations, 2015 and subsequent amendments thereof, the excess quantum exported shall be purchased by the Distribution Licensee at the weighted average tariff of large scale solar projects of 5 MW and more, discovered through Competitive Bidding in last Financial Year, and adopted by the Commission. In case no bidding is done in previous Financial Year, then the latest tariff discovered through competitive bidding shall be applicable. The total amount arrived for excess energy injected shall be adjusted in the form of credit equivalent to such amount payable in the immediately succeeding billing cycle:

Provided further that, in case of consumers other than domestic category, including those having existing Net Metering installations governed as per the Rajasthan Electricity Regulatory Commission (Connectivity and Net Metering for Rooftop and Small Solar Grid Interactive Systems) Regulations, 2015 and subsequent amendments thereof, the net surplus electricity remaining available at the end of billing period of the respective category shall lapse and no payment shall be made for the same:

Provided also that, for consumers covered under specific Central and/or State Government Schemes, such as PM KUSUM, quantum of energy and rate of purchase by Distribution Licensees shall be as per Order issued by the Commission in this regard.

- 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 bill for the net electricity consumption after adjusting the credited Units:

Provided that, for Net Metered consumers the Net imported energy (Total Consumption from all sources – Allowable Solar Generation) from the grid shall be billed according to the highest slab corresponding to the total consumption from all sources.

Provided further that even for the Consumers covered under the existing Net Metering installations governed as per the Rajasthan Electricity Regulatory Commission (Connectivity and Net Metering for Rooftop and Small Solar Grid Interactive Systems) Regulations, 2015 and subsequent amendments thereof, the energy billing shall also be governed by the above proviso.

- c) The unadjusted net credited Units of electricity as at the end of each financial year for the domestic category consumer shall be purchased by the Distribution Licensee at the same rate as mentioned in 12.6.1 (a) and will be credited in the account of the consumer within the first month of the following year.
- d) The maximum permissible energy that can be consumed from Renewable Energy generating system installed under the Net Metering Arrangement shall be limited to the energy corresponding to the minimum Capacity Utilisation Factor/Plant Load Factor in percent as applicable for respective technology as specified in the Rajasthan Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020 plus 5 percent.

12.7 In case of any dispute in billing, it would be settled by the Consumer Grievance Redressal Forum and if issue still remains unresolved, the consumer may approach the Ombudsman.

### 13 Reporting requirements

13.1 The Distribution Licensee shall report the following, by May 1<sup>st</sup> of each year and shall also place on its website:

- (a) Total number of Eligible Consumers having interconnected Renewable Energy generating system at the end of the previous financial year;
- (b) Total kW capacity of the Eligible Consumers interconnected at the end of previous financial year;
- (c) Total kWh received by the Eligible Consumer from the Distribution Licensee by month and by year for the previous financial year;
- (d) Total kWh of Renewable Energy generated by the Eligible Consumer by month and by year for the previous financial year;
- (e) Total kWh delivered by the Eligible Consumer to the Distribution Licensee as per LT cycle and by year for the previous financial year;
- (f) For each Eligible Consumer interconnection:
  - 1) Renewable Energy technology utilized;
  - 2) Gross power rating;
  - 3) Geographic location; and
  - 4) Date interconnected.

#### **14 Renewable Purchase Obligation**

14.1 The quantum of electricity generated from the Renewable Energy generating system under Net Billing arrangement or Net Metering arrangement by an Eligible Consumer, shall qualify towards compliance of Renewable Purchase Obligation (RPO) for the Distribution Licensee in whose area of supply, the Eligible Consumer is located:

Provided that, such quantum of electricity generated shall qualify towards compliance of Renewable Purchase Obligation under Net Metering arrangement only if an Eligible Consumer is not defined as obligated entity.

#### **15 Applicability of other charges**

15.1 The quantum of electricity generated from the self-owned Renewable Energy generating system under Net Metering arrangement, if installed on Eligible Consumer premises, shall be exempted from banking charges, wheeling charges, cross subsidy surcharge, and additional surcharge.

15.2 The quantum of electricity generated from the RESCO-owned Renewable Energy generating system under Net Metering arrangement, if installed on Eligible Consumer premises, shall be exempted from banking charges and wheeling charges:

Provided that, cross subsidy surcharge and additional surcharge shall be applicable for such RESCO-owned Renewable Energy generating system under Net Metering arrangement, except in case of LT domestic category consumers, at the rate of 50% of cross subsidy surcharge and additional surcharge applicable for open access consumers.

Provided further that in case of consumer categories for which cross subsidy surcharge and additional surcharge has not been determined by the Commission, surcharge (cross subsidy plus additional surcharge), shall be applicable @ Rs 1.25/kWh for such category of consumers, till the same is revised by the Commission through a separate order.

15.3 The quantum of electricity generated from the self-owned or the RESCO-owned Renewable Energy generating system under the Net Billing arrangement, if installed on Eligible consumer premises, shall be exempted from banking charges, wheeling charges, cross subsidy surcharge and additional surcharge.

#### **16 Sharing of CDM Benefits**

16.1 The CDM benefits arising from solar energy generation from Renewable Energy generating system shall be retained by Distribution Licensee:

Provided that, the entire CDM benefits obtained by the Distribution Licensee shall be fully passed on to the consumers through the ARR.

#### **17 Parallel Operation Charges**

17.1 The Commission may stipulate from time to time the 'Parallel Operation Charges' to be

levied on the energy generated 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, based on the Petition filed by Distribution Licensee, supported by adequate justification:

Provided that, no Parallel Operation Charges shall be levied on Net Billing consumers:

Provided further that, Parallel Operation Charges on the Renewable Energy generating system connected behind the Consumer's meter shall be also applicable apart from charges in accordance with Regulation 10.14.5.

## **18 Penalty**

18.1 In case of failure to meet the requirements under these Regulations, the Renewable Energy generating system or the Distribution Licensee, as the case may be, shall be liable to pay penalty as decided by the Commission from time to time.

## **19 Power to give directions**

19.1 The Commission may from time to time issue such directions and orders as are considered appropriate for the due implementation of these Regulations.

## **20 Power to amend**

20.1 The Commission may, at any time, vary, alter, modify or amend any provisions of these Regulations.

## **21 Power to Relax**

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

## **22 Power to remove difficulties**

22.1 If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may either suo-motu or on a Petition, by general or specific order, make such provisions not inconsistent with the provisions of the Act as may appear to be necessary for removing the difficulty.

By order of the Commission

(Secretary)

## Annexure - I

**LIST OF ABBREVIATIONS**

BIS	Bureau of Indian Standards
CEA	Central Electricity Authority
CT	Current Transformer
DC	Direct Current
Discom	Jaipur Vidyut Vitran Nigam Limited, Ajmer Vidyut Vitran Nigam Limited, Jodhpur Vidyut Vitran Nigam Limited
EHT	Extra High Tension
HT	High Tension
IEC	International Electro-technical Commission
IEEE	Institution of Electrical and Electronics Engineers
kV	kilo Volt
kVA	kilo Volt Ampere
kW	kilo Watt
kWh	kilo-Watt Hour
LT	Low Tension
PCU	Power Conditioning Unit
RE	Renewable Energy
REC	Renewable Energy Certificate
RERC or Commission	Rajasthan Electricity Regulatory Commission
RPO	Renewable Purchase Obligation
SLDC	State Load Despatch Centre
SM	Solar Meter
SPV	Solar Photo Voltaic

## Annexure - II

**Model Format for Application for Renewable Energy Generating System Connectivity under Net Billing Arrangement or Net Metering Arrangement**

Name of the Distribution Licensee [\_\_\_\_\_]

Name of the Administrative Office [\_\_\_\_\_]

Application No. \_\_\_\_\_

Date of Receipt \_\_\_\_\_

1	Name of applicant	
2	Address of applicant	
3	Service connection number	
4	Service connection tariff	
5	Telephone number(s)	

6	Email ID	
7	Renewable Energy generating system capacity (kilo Watts)	
8	Renewable Energy generating system grid inverter make and type	
9	Renewable Energy generating system grid inverter has automatic isolation protection (Y/N)?	
10	Has a Renewable Energy generating system Meter been installed (Y/N)?	
11	Expected date of commissioning of Renewable Energy system.	
12	Details of test certificates of Renewable Energy generating system/inverter for standards required under the Regulations	

Signature of the Applicant:

Date:

**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 system, 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 a Renewable Energy Net Billing or Net Metering connection/installation of Renewable Energy generating system of capacity of..... kW as per details below:

Name:

Date:

Service Connection number:

Application registration no.:

Renewable Energy generating system Capacity:

Name of Officer:

Signature:

Designation/ (Name of Discom)

## Annexure - III

**Schedule**

(Vide Regulation 8.3)

S. No.	Description	Amount
1.	Application Fee	
	i. LT Single Phase	Rs. 200 /-
	ii. LT Three Phase	Rs. 500 /-
	iii. HT – 11 kV	Rs. 1,000 /-
	iv. HT – 33 kV	Rs. 2,000 /-
	v. EHT-132 kV and above	Rs. 5,000 /-
2.	Security Deposit for Renewable Energy plant	
	(a) Domestic	Rs. 100/kW
	(b) Non-Domestic and others	Rs. 200/kW

The amount of security for RESCO owned system shall be double of the amount as mentioned above.

The security deposit shall not bear any interest.

## Annexure – IV-A

**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, by the name of ----- having premises at (address) \_\_\_\_\_ as first party

AND

Distribution Licensee (herein after called as Discom) and represented by ----- (designation of office) and having its registered office at (address) \_\_\_\_\_ as second party of the agreement

And whereas, the Discom agrees to provide grid connectivity to the Eligible Consumer for injection of the electricity generated from his Renewable Energy generating system of capacity \_\_\_\_\_ kilowatts into the power system of Discom and as per conditions of this agreement and RERC (Grid Interactive Distributed Renewable Energy generating system) Regulations, 2021 notified by the Rajasthan Electricity Regulatory Commission.

Both the parties hereby agree to as follows:

## **1 Eligibility**

- 1.1 Eligibility for Net Billing has been specified in the above said regulations of the Rajasthan Electricity Regulatory Commission. Eligible Consumer has to meet the standards and conditions for being integrated into grid/distribution system.

## **2 Technical and Interconnection Requirements**

- 2.1 The Eligible Consumer agrees that his Renewable Energy generating system and Net Billing system will conform to the standards and requirements specified in RERC (Grid Interactive Distributed Renewable Energy generating system) Regulations, 2021 and in the following Regulations and codes as amended from time to time:
- a) CEA's (Technical Standards for connectivity of the Distributed Generating Resources) Regulations, 2013;
  - b) Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006;
  - c) Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010;
  - d) RERC Supply Code Regulations, 2021;
- 2.2 The Eligible Consumer agrees that he has installed or will install, prior to connection of Renewable Energy generating system to Discom's distribution system, an isolation device (both automatic and inbuilt within inverter and external manual relays) and agrees for the Discom to have access to and operation of this, if required and for repair and maintenance of the distribution system.
- 2.3 Eligible Consumer agrees that in case of a power outage on Discom's system, the Renewable Energy generating system will disconnect/isolate automatically and his plant will not inject power into Licensee's distribution system.
- 2.4 All the equipment connected to distribution system shall be compliant with relevant International (IEEE/IEC) or Indian standards (BIS) and installations of electrical equipment must comply with Central Electricity Authority (Measures of Safety and Electricity Supply) Regulations, 2010 as amended from time to time.
- 2.5 Eligible Consumer agrees that the Licensee will specify the interface/Interconnection Point and metering point.
- 2.6 Eligible Consumer and Licensee agree to comply with the relevant CEA and

RERC Regulations and directions as amended from time to time, in respect of metering, operation and maintenance of the plant, drawing and diagrams, site responsibility schedule, harmonics, synchronization, voltage, frequency, flicker, etc.

- 2.7 Due to Discom's obligation to maintain a safe and reliable distribution system, Eligible Consumer agrees that if it is determined by the Discom that Eligible Consumer's Renewable Energy generating system either causes damage to and/or produces adverse effects affecting other consumers or Discom's assets, Eligible Consumer will have to disconnect Renewable Energy generating system immediately from the distribution system upon direction from the Discom and correct the problem at his own expense prior to a reconnection.
- 2.8 The consumer shall be solely responsible for any accident to human being/animals whatsoever (fatal/non-fatal/departmental/non-departmental) that may occur due to back feeding from the Renewable Energy generating system when the grid supply is off. The Distribution Licensee reserves the right to disconnect the consumer's installation at any time in the event of such exigencies to prevent accident or damage to man and material.

### **3 Clearances and Approvals**

- 3.1 The Eligible Consumer shall obtain all the necessary approvals and clearances (environmental and grid connection related) before connecting the Renewable Energy generating system to the distribution system.

### **4 Access and Disconnection**

- 4.1 Discom shall have access to metering equipment and disconnecting means of the Renewable Energy generating system both automatic and manual, at all times.
- 4.2 In emergency or outage situation, where there is no access to the disconnecting means, both automatic and manual, such as a switch or breaker, Discom may disconnect service to the premises of the Eligible Consumer.

### **5 Liabilities**

- 5.1 Eligible Consumer and Discom shall indemnify each other for damages or adverse effects from either party's negligence or intentional misconduct in the connection and operation of Renewable Energy system or Discom's distribution system.
- 5.2 Discom and Eligible Consumer shall not be liable to each other for any loss of profits or revenues, business interruption losses, loss of contract or loss of goodwill, or for indirect, consequential, incidental or special damages,

including, but not limited to, punitive or exemplary damages, whether any of the said liability, loss or damages arise in contract, or otherwise.

- 5.3 Discom shall not be liable for delivery or realization by Eligible Consumer for any fiscal or other incentive provided by the Central/State Government beyond the scope specified by the Commission in its relevant Order.
- 5.4 The Discom may consider the quantum of electricity generation from Renewable Energy Generating System under Net Billing arrangement towards RPO.
- 5.5 The proceeds from CDM benefits shall be retained by the Discom.

## 6 Commercial Settlement

- 6.1 All the commercial settlements under this agreement shall follow the RERC (Grid Interactive Distributed Renewable Energy generating system) Regulations, 2021 as amended from time to time.

## 7 Connection Costs

- 7.1 The Eligible Consumer shall bear all costs related to setting up of Renewable Energy generating system including metering and interconnection costs. The Eligible Consumer agrees to pay the actual cost of modifications and upgrades to the service line required to connect Renewable Energy system to the grid in case it is required.

## 8 Termination

- 8.1 The Agreement may be terminated at any time by mutual consent.
- 8.2 Eligible Consumer shall upon termination of this Agreement, disconnect the Renewable Energy system from Discom's distribution system in a timely manner and to Discom's satisfaction.

In witness, whereof, Mr./Mrs. ----- for and on behalf of --- ----- (Eligible Consumer) and Mr./Mrs. ----- for and on behalf of----- (Discom) sign this agreement in two originals.

### Eligible Consumer

Name

Address

Service connection No.

### Distribution Licensee

Name

Designation

Office Address

**Annexure – IV-B****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, by the name of ----- having premises at (address) \_\_\_\_\_ as first party

AND

Distribution Licensee (herein after called as Discom) and represented by ----- (designation of office) and having its registered office at (address) \_\_\_\_\_ as second party of the agreement

And whereas, the Discom agrees to provide grid connectivity to the Eligible Consumer for injection of the electricity generated from his Renewable Energy generating system of capacity \_\_\_ kilowatts into the power system of Discom and as per conditions of this agreement and RERC (Grid Interactive Distributed Renewable Energy generating system) Regulations, 2021 notified by the Rajasthan Electricity Regulatory Commission.

Both the parties hereby agree to as follows:

**1 Eligibility**

- 1.1 Eligibility for Net Metering has been specified in the above said regulations of the Rajasthan Electricity Regulatory Commission. Eligible Consumer has to meet the standards and conditions for being integrated into grid/distribution system.

**2 Technical and Interconnection Requirements**

- 2.1 The Eligible Consumer agrees that his Renewable Energy generating system and net metering system will conform to the standards and requirements specified in RERC (Grid Interactive Distributed Renewable Energy generating system) Regulations, 2021 and in the following Regulations and codes as amended from time to time:
- CEA's (Technical Standards for connectivity of the Distributed Generating Resources) Regulations, 2013;
  - Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006;
  - Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010;
  - RERC Supply Code Regulations, 2021;

- 2.2 The Eligible Consumer agrees that he has installed or will install, prior to connection of Renewable Energy generating system to Discom's distribution system, an isolation device (both automatic and inbuilt within inverter and external manual relays) and agrees for the Discom to have access to and operation of this, if required and for repair and maintenance of the distribution system.
- 2.3 Eligible Consumer agrees that in case of a power outage on Discom's system, the Renewable Energy generating system will disconnect/isolate automatically and his plant will not inject power into Licensee's distribution system.
- 2.4 All the equipment connected to distribution system shall be compliant with relevant International (IEEE/IEC) or Indian standards (BIS) and installations of electrical equipment must comply with Central Electricity Authority (Measures of Safety and Electricity Supply) Regulations, 2010 as amended from time to time.
- 2.5 Eligible Consumer agrees that the Licensee will specify the interface/Interconnection Point and metering point.
- 2.6 Eligible Consumer and Licensee agree to comply with the relevant CEA and RERC Regulations and directions as amended from time to time, in respect of metering, operation and maintenance of the plant, drawing and diagrams, site responsibility schedule, harmonics, synchronization, voltage, frequency, flicker, etc.
- 2.7 Due to Discom's obligation to maintain a safe and reliable distribution system, Eligible Consumer agrees that if it is determined by the Discom that Eligible Consumer's Renewable Energy generating system either causes damage to and/or produces adverse effects affecting other consumers or Discom's assets, Eligible Consumer will have to disconnect Renewable Energy generating system immediately from the distribution system upon direction from the Discom and correct the problem at his own expense prior to a reconnection.
- 2.8 The consumer shall be solely responsible for any accident to human being/animals whatsoever (fatal/non-fatal/departmental/non-departmental) that may occur due to back feeding from the Renewable Energy generating system when the grid supply is off. The Distribution Licensee reserves the right to disconnect the consumer's installation at any time in the event of such exigencies to prevent accident or damage to man and material.

### **3 Clearances and Approvals**

- 3.1 The Eligible Consumer shall obtain all the necessary approvals and clearances (environmental and grid connection related) before connecting the Renewable Energy generating system to the distribution system.

#### **4 Access and Disconnection**

- 4.1 Discom shall have access to metering equipment and disconnecting means of the Renewable Energy generating system both automatic and manual, at all times.
- 4.2 In emergency or outage situation, where there is no access to the disconnecting means, both automatic and manual, such as a switch or breaker, Discom may disconnect service to the premises of the Eligible Consumer.

#### **5 Liabilities**

- 5.1 Eligible Consumer and Discom shall indemnify each other for damages or adverse effects from either party's negligence or intentional misconduct in the connection and operation of Renewable Energy system or Discom's distribution system.
- 5.2 Discom and Eligible Consumer shall not be liable to each other for any loss of profits or revenues, business interruption losses, loss of contract or loss of goodwill, or for indirect, consequential, incidental or special damages, including, but not limited to, punitive or exemplary damages, whether any of the said liability, loss or damages arise in contract, or otherwise.
- 5.3 Discom shall not be liable for delivery or realization by Eligible Consumer for any fiscal or other incentive provided by the Central/State Government beyond the scope specified by the Commission in its relevant Order.
- 5.4 The Discom may consider the quantum of electricity generation from Renewable Energy Generating System under net metering arrangement towards RPO (Applicable only in case of Eligible Consumer who is not defined as an obligated entity).
- 5.5 The proceeds from CDM benefits shall be retained by the Discom.

#### **6 Commercial Settlement**

- 6.1 All the commercial settlements under this agreement shall follow the RERC (Grid Interactive Distributed Renewable Energy generating system) Regulations, 2021 as amended from time to time.

#### **7 Connection Costs**

- 7.1 The Eligible Consumer shall bear all costs related to setting up of Renewable Energy generating system including metering and interconnection costs. The Eligible Consumer agrees to pay the actual cost of modifications and upgrades to the service line required to connect Renewable Energy system to the grid in case it is required.

**8 Termination**

8.1 The Agreement may be terminated at any time by mutual consent.

8.2 Eligible Consumer shall upon termination of this Agreement, disconnect the Renewable Energy system from Discom's distribution system in a timely manner and to Discom's satisfaction.

In witness, whereof, Mr./Mrs. ----- for and on behalf of --- ----- (Eligible Consumer) and Mr./Mrs. ----- for and on behalf of----- (Discom) sign this agreement in two originals.

**Eligible Consumer****Distribution Licensee**

Name

Name

Address

Designation

Service connection No.

Office Address

**Annexure - V****Prior Intimation for Installation of Renewable Energy Generating System 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 Generating system facility behind the meter**

Sir/Madam,

I undersigned ..... [Name of consumer]....., having Consumer Account No. ...., is giving the prior intimation, as per RERC (Grid Interactive Distributed Renewable Energy generating systems) Regulations, 2021 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 generating system : .....
- (e) Interconnection point : .....
- (f) Whether the load is separated for Renewable Energy generating system : Yes/No
- (g) Whether the Renewable Energy generating system is to be connected in parallel to Distribution system: Yes/No

Yours faithfully,

(Signature)

Name: .....

Address: .....

Contact No. : .....

## Annexure - VI

### Inverter Standards

Inverter should comply with IEC 61683/IS 61683 for efficiency and Measurements and should comply with IEC 60068-2 (1, 2,14,30) / Equivalent BIS Standard for environmental testing.

Inverter should supervise the grid condition continuously and in the event of grid failure (or) under voltage (or) over voltage, Renewable Energy System should be disconnected by the circuit Breaker / Auto switch provided in the inverter and shall comply with requirements specified at regulation 10 of these Regulations.

### Harmonics Standards

As per the standard IEEE 519, the permissible individual harmonics level shall be less than 3% (for both voltage and current harmonics) and Total Harmonics Distortion (THD) for both voltage and current harmonics of the system shall be less than 5%.

### **Technical and interconnection requirements Parameters**

Parameter	Reference	Requirement
<b>Overall conditions of service</b>	State Distribution/Supply Code	Compliance with the terms and conditions of supply.
<b>Overall Grid Standards</b>	Central Electricity Authority (Grid Standard) Regulations 2010 and subsequent amendments thereof.	Compliance with Grid standards as regards the frequency, voltage and protection coordination.
<b>Meters</b>	Central Electricity authority (Installation & Operation of Meters) Regulations, 2006 and RERC Regulations and directions as amended from time to time.	Compliance with the specifications of the meters.
<b>Safety and supply</b>	Central Electricity Authority (Measures of Safety and Electricity Supply) Regulations, 2010 and subsequent amendments	Compliance with safety provisions for electrical installations and apparatus of voltage below and above 650 volts.

Parameter	Reference	Requirement
	thereof.	
<b>Harmonic Requirements Harmonic Current</b>	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013 and subsequent amendments thereof.	The Total Harmonic Distortion (THD) for voltage at the interconnection point should not exceed 5%. For the current distortion limits, the Total Demand Distortion (TDD) in terms of ratio of available short circuit current to the demand current ( $I_{sc}/I_L$ ) should remain within limits specified for various harmonics for different TDD values.
<b>Synchronization</b>	CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013 and subsequent amendments thereof.	Renewable Energy system must be equipped with a grid frequency synchronization device. Every time the generating station is synchronized to the electricity system, it shall not cause voltage fluctuation greater than +/- 5% at point of inter connection.
<b>Voltage</b>	CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013 and subsequent amendments thereof.	The voltage-operating window should minimize nuisance tripping and should be within operating range of 80% to 110% of the nominal connected voltage. The Renewable Energy system must isolate itself from the grid within a clearing time of 2 seconds.
<b>Flicker</b>	CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013 and subsequent amendments thereof.	Operation of Renewable Energy system should not cause voltage flicker in excess of the limits stated in IEC 61000 standards as follows: <u>Short-term flicker (<math>P_{st}</math>):</u> The flicker severity evaluated over a short period of time (10 minutes) should be $\leq 1$ . <u>Long-term flicker (<math>P_{lt}</math>):</u> The flicker severity evaluated over a long period of time (typically 2 hours) should be $\leq 0.65$ .
<b>Frequency</b>	CEA (Technical Standards for	There should be over and under

<b>Parameter</b>	<b>Reference</b>	<b>Requirement</b>
	Connectivity of the Distributed Generation Resources) Regulations, 2013 and subsequent amendments thereof.	frequency trip functions with a clearing time of 0.2 seconds, when the Distribution system frequency deviates outside the specified conditions (50.5 Hz on upper side and 47.5 Hz on lower side).
<b>DC injection</b>	CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013 and subsequent amendments thereof.	Renewable Energy system should not inject DC power more than 0.5% of full rated output at the interconnection point or 1% of rated inverter output current into distribution system under any operating conditions.
<b>Power Factor</b>	CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013 and subsequent amendments thereof.	When the output of the inverter is greater than 50%, the power output from the inverter shall have a lagging power factor of greater than 0.9.
<b>Islanding and Disconnection</b>	CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013 and subsequent amendments thereof.	The Renewable Energy system must island/disconnect itself within IEC standard stipulated time in the event of fault, voltage or frequency variations.
<b>Overload and Overheat</b>	CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013 and subsequent amendments thereof.	The inverter should have the facility to automatically switch off in case of overload or overheating and should restart when normal conditions are restored.
<b>Paralleling Device</b>	CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013 and subsequent amendments thereof.	Paralleling device of Renewable Energy system shall be capable of withstanding 220% of the normal voltage at the interconnection point.