# Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Solar PV Grid Interactive System based on Net Metering) Regulations, 2019" (hereinafter referred to as "Net Metering Regulations, 2019")

UNION OF INDIA
India

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## Rule
## JOINT-ELECTRICITY-REGULATORY-COMMISSION-FOR-THE-STATE-G of 2019

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Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Solar PV Grid Interactive System based on Net Metering) Regulations, 2019" (hereinafter referred to as "Net Metering Regulations, 2019")Published vide Notification No. JERC-24/2019, Gurugram, dated 24th July, 2019Last Updated 30th July, 2019Joint Electricity Regulatory Commission(For The State of Goa and Union Territories)No. JERC-24/2019. - In exercise of the powers conferred under Sub-Section (1) of Section 181 and Clauses (zd), (ze) and (zf) of Sub-Section (2) of Section 181, read with Sections 42, 61(h), 66, 83 and 86(1)(e) of the Electricity Act, 2003 and all other powers enabling it in this behalf, the Joint Electricit Regulatory Commission (for the State of Goa and Union Territories) hereby makes the following Regulations, namely:

### 1. Short Title, Commencement and extent.

- 1.1. These Regulations shall be called the "Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Solar PV Grid Interactive System based on Net Metering) Regulations,

2019" (hereinafter referred to as "Net Metering Regulations, 2019").1.2These Regulations shall come into force from the date of publication in the official gazette.1.3These Regulations shall extend to the State of Goa and the Union Territories of Andaman and Nicobar Islands, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Lakshadweep and Puducherry.1.4These Regulations shall apply only to the Grid Connected Rooftop mounted, ground mounted and floating Solar Power Projects.

## 2. Definitions, Abbreviations and Interpretations.

- 2.1. In these Regulations, unless the context otherwise requires:(1)"Act" means the Electricity Act, 2003 (36 of 2003), and subsequent amendments thereof;(2)"Average Power Purchase Cost" (APPC) means the Weighted Average Pooled Price of power purchase at Distribution Licensee's periphery, as approved by the Commission in the Tariff Order of the respective year in which solar energy is generated, from all the energy suppliers on long-term, medium-term and short-term basis, but excluding energy purchased from Renewable Energy sources;(3)"Authority" means the Central Electricity Authority referred to in sub-section (1) of Section 70 of the Act;(4)"Billing cycle" means the period for which regular electricity bills as specified by the Commission, are prepared for different categories of consumers by the Licensee;(5)"COD" or "Commercial Operation Date" or "Date of commercial operation" mean the date on which generating plant is synchronised with the grid system;(6)"Check Meter" means a meter, which shall be connected to the same core of the current transformer (CT) and voltage transformer (VT) to which Solar Energy Meter is connected and shall be used for accounting and billing of electricity in case of failure of main meter or Solar Energy Meter;(7)"Commission" or "Joint Electricity Regulatory Commission" or "JERC" means the Joint Electricity Regulatory Commission for the State of Goa and Union Territories of Andaman and Nicobar Islands, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Puducherry and Lakshadweep referred to in sub-section (1) of Section 82 of the Act and constituted under the Act;(8)"Connection Agreement" means the net-metering inter-connection Agreement entered into between the Distribution Licensee and the Consumer;(9)"Consumer" means any person who is connected to the electricity distribution system of the Distribution Licensee or any other person engaged in the business of supplying electricity to the public, as per the Act or any other law in force as of now and includes any person whose premises are used for receiving power;(10)"Consumer Grievances Redressal Forum (CGRF in brief)" means the forum for redressal of grievance of Consumers, established under section 42(5) of the Act;(11)"Contracted Load" or "Contract Demand" means the maximum demand in kW, kVA or HP, agreed to be supplied by the Distribution Licensee and as indicated in the Agreement executed between the Licensee and the Consumer;(12)"Credit Note" means number of units (kWh) as credit in the account as surplus power exported to the grid or the banked solar units accounted at the end of financial year by the Consumer for which the Distribution Licensee shall make the payment to the Consumer as per these Regulations;(13)"Distribution Licensee" means a person granted a Licence under Section 14 (b) of the Act authorizing him to operate and maintain a distribution system and supply electricity to the consumers in his area of supply;(14)"Electricity Supply Code" means the Electricity Supply Code specified by the Commission under Section 50 of the Act and subsequent amendments thereof;(15)"Eligible Consumer" means a consumer of electricity in the area of supply of the Distribution Licensee, who uses a self-owned or third party owned solar power project, to offset part or all of the consumer's own electricity requirements;(16)"Feed-in-Tariff" means the Generic Tariff

determined by the Commission for generation from Solar Photovoltaic projects for Gross Metering in accordance with the Joint Electricity Regulatory Commission for the State of Goa and UTs (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019 or as amended from time to time;(17)"Grid" means the low voltage electrical network, the distribution and transmission network or the high voltage backbone system of inter-connected transmission lines, sub-stations and generating plants for sale of energy or wheeling of energy as defined in these Regulations;(18)"Group Net Metering" means an arrangement whereby surplus energy is generated and injected from a Renewable Energy System through Net Meter and the exported energy is adjusted in more than one electricity service connection(s) of the same consumer either at the same or different premise located within the same Distribution Licensee's area of supply;(19)"Installed Capacity" means the summation of the name plate capacities expressed in kWp of all the units of the Solar Project or the capacity of the Solar Project reckoned at the output terminals, approved by the Commission;(20)"Interconnection Point" means the interface point of a Solar Project with the distribution network of the Distribution Licensee at appropriate voltage level as defined in the Joint Electricity Regulatory Commission for the State of Goa and UTs (Electricity Supply Code) Regulations, 2018 or as amended from time to time;(21)"Invoice" means a periodical Bill/Supplementary Bill or an Invoice/ Supplementary Invoice by the Distribution Licensee to the Consumer;(22)"Month" means English calendar month starting with 1st day/date of the month and ending with last day/date of the month. Part Month will be applicable for number of days in proportion to total number of days in the specific month;(23)"Net Metering" means an arrangement under which Solar PV System installed at Eligible Consumer's premises is delivering surplus electricity, if any, to the grid of the Distribution Licensee after off-setting the electricity supplied by the Distribution Licensee to such Eligible Consumer during the applicable billing period;(24)"Net Meter" means an appropriate bi-directional energy meter capable of recording both import from the grid and export of electricity generated at Solar Project;(25)"Obligated Entity" means the licensed Supplier of Power, Distribution Licensee(s), Captive user(s) and Open Access Consumer(s), identified under Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Procurement of Renewable Energy) Regulations, 2010 as amended from time to time and mandated under clause (e) of subsection (1) of Section 86 of the Act to fulfil the Renewable Purchase Obligations as determined by the Commission from time to time;(26)"Ombudsman" means the person appointed in accordance with Section 42 (6) read with Section 181 of the Act;(27)"Open Access Consumer" means a person permitted to use Intra-State Transmission System and / or Distribution System to receive supply of electricity from a person other than the Distribution Licensee of his area of supply, and the expression includes a Generating Company and a Licensee, who has availed of or intends to avail of Open Access;(28)"Project Developer" means the developer of the Solar Project, who shall develop such a project on his own premises or on premises taken on lease or rent;(29)"Prosumer" means a Consumer who is also a Producer of Solar Power;(30)"Producer of Solar Power" means an individual or an entity or a group of people intending to set up or who has/have set up a Solar Project for the purpose of generation of Solar power for own consumption and sale of surplus power to the Distribution Licensee;(31)"Premises" means Rooftop of a house / factory/ Ware house / Government building/ Panchayat Bhavan / Community Centre/ School/ dispensary / hospital / parking place / Bus Stand / Group Housing Society/ Market Society / market roof top / Canals / Water Reservoir/ any such place/ or vacant space and elevated area on the land, building or the Infrastructure or part or combination thereof,

or the area taken on rent or on lease, or the area for the common facility in the premises of any multi-storeyed building, Group Housing Society / Residential Welfare Association / Market Welfare Association/ Industrial Welfare Group and in respect of which a separate meter or metering arrangements have been made by the Licensee for supply of electricity. The premises exclude the structures of historic significance (unless permission is taken from appropriate authority);(32)"Renewable Energy Certificate (REC)" means the certificate issued in accordance with the Regulations and the procedures approved by the Central Electricity Regulatory Commission;(33)"Renewable Purchase Obligations (RPO)" means renewable power purchase obligations;(34)"Sanctioned Load" means the load in kW, kVA or HP, which the Licensee has agreed to supply from time to time subject to the governing terms and conditions in the absence of an Agreement between the Distribution Licensee and the consumer;(35)"Settlement Period" means the period beginning from first day of April as per the English calendar year and ending with the thirty first day of March of the next year;(36)"Solar Energy Meter" means the meter used for measuring the gross solar power units generated by the Solar Project for the purpose of accounting and billing;(37)"Solar Grid Inverter" means equipment that converts the DC (direct current) power from Solar Power modules to Grid-compatible AC (alternating current) power;(38)"Solar Photovoltaic Power" means a solar photo voltaic power project that uses sunlight for direct conversion into electricity through Photo Voltaic technology based on technologies such as crystalline Silicon or thin film, etc., as approved by the Ministry of New & Renewable Energy (MNRE) from time to time;(39)"Solar Project" means a Rooftop or ground mounted or floating Photovoltaic and other small Solar Power generating station, installed that uses sunlight for its direct conversion into electricity;(40)"Solar Project Developer (SPD)" means a Consumer or an entity whose Solar Project has been granted connectivity by the Distribution Licensee;(41)"Solar Power Generator (SPG)" means anyone who has started generating solar power from the approved project;(42)"State Nodal Agency" means the agency in the concerned State or Union Territory as may be designated by the Commission to act as the agency for accreditation and recommending the renewable energy projects for registration and to undertake such functions as may be specified under clause (e) of sub-section (1) of Section 86 of the Act;(43)"Supplier of Power" means a person or an entity having licence to supply electricity to the Consumer;(44)"Tariff Order" in respect of a Licensee means the last retail Tariff Order issued by the Commission for that Licensee indicating the tariff to be charged by the Licensee from various categories of Consumers for supply of electrical energy and services;(45)"Third Party Owned" means a Solar Project owned by a Solar Project Developer that is installed on the roof or elevated structure or the Premises as defined in 1(31) above for which a commercial lease or revenue share agreement has been entered into by the Solar Project Developer with the owner;(46)"Virtual Net Metering" means an arrangement whereby entire energy generated from a Solar Project installed at Consumer premise or any other location is injected through Solar Energy Meter and the energy exported is adjusted in either one or more than one electricity service connection(s) of participating Consumer(s) located within the same Distribution Licensee's area of supply;(47)"Year" or "Financial Year" means a period commencing on 1st April of an English calendar year and ending on 31st March of the subsequent calendar year.2.2Abbreviations. - In these Regulations the following shall be interpreted as:i. "EPC" means Engineering Procurement & Construction Contractor authorized by the Distribution Licensee;ii. "kWp" means kilo Watt peak, term used as a rating of the Solar Plant;iii. "MNRE" means the Ministry of New and Renewable Energy of Government of India;2.3All other words and expressions used in these Regulations if not

specifically defined herein above, but defined in the Act, shall have the meaning assigned to them in the Act. The other words and expressions used herein but not specifically defined in these Regulations or in the Act but defined under any other law passed by the Parliament applicable to the electricity industry in the State or Union Territory shall have the meaning assigned to them in such law.

## 3. Scope of Regulations and Extent of Application.

- 3.1. These Regulations shall be applicable to the grid connected solar projects subject to the fulfilment of Eligibility Criteria specified in these Regulations.3.2Group Net Metering Framework shall be applicable for all Consumers..3.3Virtual Net Metering Framework shall be applicable for residential consumers, Group Housing Societies, and establishments of Government/Local Authorities.

## 4. Eligibility Criteria.

- 4.1. Solar Projects of capacity up to 500 kWp at one premise based on the technologies approved by MNRE are eligible for connecting the project with the Grid under these Regulations. The capacity of the Solar Project to be installed under Group Net Metering or Virtual Net Metering framework shall not be less than 5 kWp and more than 500 kWpProvided that the Solar Project of rating higher than 500 kWp can be considered by the Distribution Licensee if the distribution system remains stable with higher rating Solar Project getting connected to the grid.4.2The Eligible Consumer may install the Solar Project under these Regulations, provided the Solar Project is:i. Within the permissible rated capacity as defined under these Regulations;ii. Located at the Consumer's Premises;iii. Interconnected and operated safely in parallel with the Distribution Licensee's network.4.3Consumers will generate solar power for self-consumption and are allowed to feed the excess solar power into the grid, which shall be adjusted under Net Metering as per provisions of these Regulations.4.4The maximum Solar Power Generation capacity to be installed at any Eligible Consumer's Premises shall not exceed his Contract Demand (in kVA) or Sanctioned Load (in kW).

## 5. Third Party Owned Solar Project.

- In the third party owned Solar Project, the following conditions shall apply:i. The Consumer may lease out / rent the Rooftop Space/ Land/ Water bodies to a Solar Project Developer on a mutual commercial arrangement for setting up Solar Project under Net Metering framework. The Consumer will pay the Solar Project Developer for all the energy generated by the Solar Project at a mutually agreed tariff. The commercial arrangement between the Project Developer and the Prosumer will be submitted to the Distribution Licensee for records and the Distribution Licensee will not have any role in such commercial arrangement. All the provisions of Net Metering framework shall be applicable for Solar Project set up by a Solar Project Developer.ii. Such Solar Projects set up under these Regulations shall be exempted from Open Access restrictions and associated charges including losses.iii. The Distribution Licensee / Nodal Agency may explore other business models that may facilitate the proliferation of Grid connected Rooftop solar projects. For any new business model not envisaged in these Regulations, the Commission will approve the framework for such business

model based on the specific Petition to be filed in this regard.

## 6. Solar Power Generation Capacities.

- 6.1. The Distribution Licensee may undertake demand aggregation and other related activities, to promote solar power capacity in its licensed area. The Distribution Licensee may act EPC to undertake solar power development:Provided that in case the Distribution Licensee acts EPC, the income from such activity shall be considered as "Other Income" under the provisions of the applicable Tariff Regulations.6.2The Distribution Licensee shall facilitate the Solar Project Development:Provided that the cumulative solar capacity allowed at a particular Distribution Transformer shall not exceed 75 percent of the capacity of the Distribution Transformer:Provided further that the Distribution Licensee may allow solar power capacity connected to a particular Distribution Transformer and feeder connected to the same exceeding 75 percent of capacity upon consideration of a detailed load study carried out by it.6.3The Distribution Licensee shall update on a yearly basis for each of the Distribution Transformers, the Distribution Transformer capacity available for connecting the Solar Projects and shall provide the information on its website, as well as to the Commission.

## 7. Solar Project-Types.

- For the purpose of these Regulations, the Commission has covered the Solar Power Projects for Prosumer, which may be roof mounted, ground mounted, floating on water bodies or installed on Elevated structures.

## 8. Metering Arrangement.

- 8.1. The metering system shall be as per the Central Electricity Authority (Installation & Operation of Meters) Regulations, 2006, as amended from time to time.8.2Net Meter of the same accuracy class as the Consumer's meter existing before the commissioning of the Solar Project, shall be installed in replacement of existing meter:Provided that, 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:Provided further that such Meters may be provided by the Distribution Licensee or the Consumer, subject to the same being from the approved list of the suppliers:Provided also that if the Meter is installed by the Distribution Licensee, its cost shall be recovered from the Consumer before the COD of the Project.8.3The Solar Energy Meter (a unidirectional meter) is to be installed as an integral part of the Net Metering system at the point at which the electricity is generated by the Solar Project and delivered to the main panel. The Solar Energy Meter shall have facility for recording meter readings using Meter Reading Instrument (MRI) or wireless equipment.8.4Check Meters shall be mandatory for Solar Project having capacity more than 20 kW. For installations having capacity less than or equal to 20 kW, the Check Meters would be optional:Provided that the cost of Check Meter shall be borne by the Consumer, and such meter shall be tested and installed by the Distribution Licensee.8.5The Distribution Licensee shall be responsible for installation, testing and maintenance of the metering equipment/system and its adherence to the applicable standards and specifications.8.6The Meters installed, if arranged by the

Consumer, shall be inspected, verified for the accuracy and sealed by the Distribution Licensee in the presence of the Consumer or its representative (if he chooses to be present at the time of testing).

## 9. Inter-connection with the Distribution Network, Standards and Safety.

- 9.1. The Distribution Licensee shall ensure that the inter-connection of the Solar Project with its distribution network conforms to the specifications, standards and other provisions specified in the CEA (Technical Standard for Connectivity of the Distributed Generation Resources) Regulations, 2013, CEA (Technical Standards for Connectivity to the Grid) Regulations, 2007 including amendments thereto, the CEA (Measures relating to Safety and Electric Supply), Regulations, 2010 including amendments thereto, the Joint Electricity Regulatory Commission for the State of Goa and UTs (Electricity Supply Code) Regulations, 2018 including amendments thereto, and the Joint Electricity Regulatory Commission for the State of Goa and UTs (State Grid Code) Regulations, 2010 including amendments thereto.9.2Solar Power generation with Net metering will be allowed for all the eligible Consumers of the Distribution Licensee under the jurisdiction of the Commission with/without battery back-up support:Provided that, if an Eligible Consumer opts for connectivity with a battery back-up, the inverter shall have a separate back-up wiring to prevent the battery/ decentralized generation (DG) 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.Provided further that the Inverter shall comply with the Standards prescribed in Annexure A.9.3The Eligible Consumer shall be responsible for the safe operation, maintenance and rectification of any defect in the Solar Project up to the point of Net Meter, beyond which point such responsibility, including in respect of the Net Meter, shall be that of the Distribution Licensee:Provided that the Solar Energy Meter shall be maintained by the Distribution Licensee.9.4The Eligible Consumer shall provide appropriate protection for islanding of the Solar Project from the network of the Distribution Licensee in the event of grid or supply failure.9.5The Consumer shall be solely responsible for any accident to human being/ animals whatsoever (fatal/nonfatal/ departmental/non-departmental) that may occur due to back feeding from the Solar Project when the grid supply is off:Provided that the Distribution Licensee shall have the right to disconnect the Solar Project from its distribution network at any time in the event of any threat of accident or damage from such Project to its distribution system, for maintenance of distribution system so as to avoid any accident or damage to it:Provided further that the Eligible Consumer may use his Solar Project in islanding mode for his own consumption.9.6The Distribution Licensee and Eligible Consumer shall discharge their respective duties and responsibilities as specified in the relevant Regulations of the Central Electricity Authority.9.7HT Consumers opting for Net Metering shall not be required to provide separate connectivity for the Solar Project at HT voltage level for consumption at LT Level.

## 10. Communication Facilities.

- All grid connected Solar Projects shall have electricity meters with features to record energy for data storage for injection into the grid through Solar Energy Meter as provided under these Regulations:Provided that all projects shall have communication port for exchanging real time information with the Distribution Licensee:Provided further that all Meters shall have Advanced

Metering Infrastructure (AMI) facility.

## 11. Billing, Energy Accounting and Settlement.

- 11.1. The accounting of electricity exported from the Solar Project and imported from the Grid by the Eligible Consumer shall become effective from the date of connectivity of the Solar Project with the distribution network.11.2For each billing period, the Distribution Licensee shall show separately: -(a)the quantum of electricity Units exported by the Eligible Consumer;(b)the quantum of electricity Units imported by the Eligible Consumer;(c)the net quantum of electricity Units billed for payment by the Eligible Consumer; and(d)the net quantum of electricity Units carried over (if surplus) to the next billing period:Provided that, 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;Provided further that, 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 / bill for the net electricity consumption after adjusting the credited Units.11.3The unadjusted net credited Units of electricity as at the end of each financial year shall be considered as units purchased by the Distribution Licensee at Average Power Purchase cost of the concerned Distribution Licensee or Feed-in-Tariff determined for that Year without considering subsidy and Accelerated Depreciation, whichever is lower.Provided that, at the beginning of each Settlement Period, the cumulative quantum of injected electricity carried forward will be re-set to zero.11.4In 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:Provided that 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.11.5The Distribution Licensee shall compute the amount payable to the Eligible Consumer, latest by April 30th of the following year for the excess solar energy purchased by it during the Financial year as specified in Regulation 11.3, and shall pay the amount to the eligible consumer by May 31st of the following year.11.6The 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.11.7In case of Group Net Metering, the billing and energy accounting shall be dealt with as under:(a)Where the export of units during any billing period exceeds the import of units at the connection where Solar Project is located, such surplus units injected into the grid shall be adjusted against the energy consumed in the monthly bill of service connection(s) in a sequence indicated in the priority list provided by the Consumer. The sequence of priority for adjustment shall be deemed to have begun with the service connection where the Solar Project is located;(b)The priority list for adjustment of the balance surplus energy against other electricity connection(s) may be revised by the Consumer once at the beginning of every financial year with an advance notice of two months;(c)The electricity consumption in any time block (e.g., peak hours, off-peak hours, etc.) shall be first compensated with the electricity generation in the similar time blocks in the same billing cycle of the Consumer where the Solar Project is located, and any surplus units injected shall be adjusted against the energy consumed in the monthly bill of service connection(s) in a sequence indicated in the priority list provided by the Consumer, as if the surplus generation/ Energy Credits occurred during the off peak time block for Time of Day (ToD)

Consumers and normal time block for Non-ToD Consumer;(d)Where during any billing period, the export of units either in Non-ToD Tariff or ToD Tariff exceeds the import of units by the electricity service connection(s), such surplus units injected by the Consumer shall be carried forward to the next billing period as energy credit and shown as energy exported by the Consumer for adjustment against the energy consumed in subsequent billing periods within the Settlement Period in the sequence indicated in the priority list;(e)For unadjusted net credited Units of electricity at the end of each financial year, the provisions of Clause 11.3 will be applicable for the connection where Solar Project is located.11.8In case of Virtual Net Metering, the billing and energy accounting shall be dealt with as under:(a)The energy generated from the Solar Project shall be credited in the monthly electricity bill of each participating consumer(s) as per the ratio of procurement from Solar Project indicated under the agreement/MoU entered on a stamp paper by the Consumer(s) and submitted to the Distribution Licensee;(b)The Consumer(s) shall have the option to change the share of credit of electricity from Solar Project by submitting a fresh Agreement/MoU on a stamp paper subject to the ratio of procurement from Solar Project indicated under the agreement/MoU entered by the Consumer(s) once at the beginning of the financial year with an advance notice of two months;(c)Where the service connection of any participating consumer(s) is disconnected due to any reason under any law for the time being in force, the unadjusted units/remaining credits of that consumer shall be paid by the Distribution Licensee at the end of the financial year;(d)The electricity consumption in any time block (e.g., peak hours, off-peak hours, etc.) shall be first compensated with the electricity generation in the similar time blocks in the same billing cycle of the participating consumer(s). Any surplus generation over consumption in any time block in a billing cycle shall be accounted as if the surplus generation/ Energy Credits occurred during the off-peak time block;(e)Where the units credited during any billing period of any participating Consumer exceeds the import of units by that consumer, such surplus credited units shall be carried forward in the next billing period as energy credits for adjustment against the energy consumed in subsequent billing periods within the settlement period of each participating Consumer(s);(f)For unadjusted net credited Units of electricity at the end of each financial year, the provisions of Clause 11.3 will be applicable for each participating Consumer(s).(g)The commercial arrangement for setting up and operating Solar Project under Virtual net Metering between the participating Consumer(s) will be mutually agreed and the Distribution Licensee will not have any role in such commercial arrangement.

## 12. Penalty or Compensatio.

- Failure in Metering System. - In case of failure of metering system, the provisions of penalty or compensation shall be as per the provisions of the Joint Electricity Regulatory Commission for the State of Goa and UTs (Standards of Performance for Distribution Licensees) Regulations, 2015 for the Distribution Licensee.

## 13. Late Payment Surcharge.

- In case the payment by the Distribution Licensee under Regulation 11.3 above is delayed beyond 31st of May of that year, a Late Payment Surcharge at the rate of 1.25% per month from the delay beyond 31st May shall be levied on the Distribution Licensee.

## 14. Charges for Banking of Solar Power.

- The Solar Projects, whether self-owned or third party owned installed under these Regulations, shall be exempted from charges in respect of banking of electricity.

## 15. Renewable Purchase Obligation and Eligibility to Participate under REC Mechanism.

- 15.1. The quantum of electricity consumed by the Eligible Consumer from the Solar Project under the Net Metering Arrangement shall qualify towards his compliance of Solar RPO, if such Consumer is an Obligated Entity.15.2The quantum of electricity consumed by the Eligible Consumer from the Solar Project owned and installed under the Net Metering arrangement shall, if such Consumer is not an Obligated Entity, qualify towards meeting the Solar RPO of the Distribution Licensee:Provided that the Distribution Licensee shall, with the consent of the Eligible Consumer, make all the necessary arrangements, including for additional metering, as may be required for the accounting of the Solar energy generated and consumed by the Eligible Consumer.15.3The unadjusted surplus units of Solar energy purchased by the Distribution Licensee under the provisions of Regulation 11.3 shall also qualify towards meeting its Solar RPO.15.4The Solar energy generated by an Eligible Consumer in a Net Metering Arrangement under these Regulations shall not be eligible for REC.15.5The Solar Energy generated for captive use shall also qualify for meeting the RPO.

## 16. Procedure for Application and Registration.

- 16.1. The Eligible Consumer shall apply to the concerned Distribution Licensee for connectivity of the Solar Project with the Licensee's distribution network along with one-time, non-refundable registration fee for Rs. 500 (five hundred) or such other amount as may be stipulated by the Commission from time to time; and the Distribution Licensee shall acknowledge receipt of such application:Provided that the Distribution Licensee shall provide the option of making such application and payment of fees by electronic means online within two months from the date of publication of these Regulations.16.2The procedure for application for connectivity of a Solar Project with the network of the Distribution Licensee is set out at Annexure 1 of these Regulations. The model Application Form, along with a checklist, for application to be made by the Eligible Consumer to the concerned Licensee is at Annexure 2.16.3Before rejecting any application for setting up a Solar Project for connection to 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:Provided that in case approval cannot be granted due to inadequate Distribution Transformer capacity, the application may be considered, in chronological order of date seniority and if the Consumer so opts, after such capacity becomes available.16.4The Distribution Licensee shall implement a web-based processing system for processing of the applications for Solar Net Metering, which shall be set up within three months of the notification of these Regulations.16.5Matters relating to subsidy shall be dealt by the State Nodal Agency/Distribution Licensee or as approved by MNRE from time to time.16.6The Distribution

Licensee shall annually publish on its web, information relating to the Solar Projects added in the year, ratings of each Solar Project and other relevant information. The information shall also be submitted to the Commission by 30th April of the next year.16.7The plants with capacity more than 500 kWp shall be checked by the concerned Chief Electrical Inspector associated with the Distribution Licensee.Miscellaneous

## 17. 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 any of the provisions of these Regulations on its own motion or on an application made before it by an interested person.

## 18. Power to amend.

- The Commission may at any time add, vary, alter, suspend, modify, amend or repeal any of the provisions of these Regulations.

## 19. Repeal and Savings.

- Save as otherwise provided in this Net Metering Regulations, 2019, JERC (Grid Connected Ground Mounted and Solar Rooftop and Metering) Regulations, 2015, together with amendments made from time to time, are hereby repealed:Provided that for all purposes, including review matters pertaining to the period till notification of these Regulations, the issues relating to Net Metering shall be governed by the provisions of the JERC (Grid Connected Ground Mounted and Solar Rooftop and Metering) Regulations, 2015, including amendments thereto, as may be applicable.

## 20. Power to remove difficulties.

- In case of any difficulty arising while giving effect to the provisions of these Regulations, the Commission may either suo-motu or on a Petition, by an order, make such provisions not inconsistent with the provisions of the Act as may appear to be necessary.Annexure A: Voltage level Harmonics, Standards: Harmonics & Inverter. - Harmonics shall be as per IEEE 519 Standards. 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 Grid system shall be less than 5%.Inverter Standards. - Inverter should comply with IEC 61683/IS 61683 for efficiency and Measurements and should comply 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, Solar Plant should be disconnected by the circuit Breaker / Auto switch provided in the Inverter.

Various
Other
Standards

| Sl. | Parameter | Reference | Requirements |
|---|---|---|---|
| 1. | Overall conditions of service | State Distribution/Supply Code | State Distribution/Supply Code |
| 2. | Overall Grid Standards | Central Electricity Authority (Grid Standard)Regulations 2010 | Central Electricity Authority (Grid Standard)Regulations 2010 |
| 3. | Equipment | BIS / IEC / IEEE | BIS / IEC / IEEE |
| 4. | Meters | Central Electricity Authority (Installation &operation of meters) Regulation 2006 as amended time to time | Central Electricity Authority (Installation &operation of meters) Regulation 2006 as amended time to time |
| 5. | Safety and supply | Central Electricity Authority (Measures relatingto Safety and Electricity Supply) Regulations, 2010 | Central Electricity Authority (Measures relatingto Safety and Electricity Supply) Regulations, 2010 |
| 6. | Harmonic Requirements Harmonic Current | IEEE 519CEA (TechnicalStandards for Connectivity of the DistributedGeneration Resources) Regulations 2013. | IEEE 519CEA (Technical Standards for Connectivity of theDistributed Generation Resources) Regulations 2013. |
| 7. | Synchronization | IEEE 519CEA (Technical Standards for Connectivity of theDistributed Generation Resources) Regulations 2013 | Solar Plant must be equipped with a gridfrequency synchronization device. Every time the generatingstation is synchronized to the electricity system. It shall notcause voltage fluctuation greater than +/- 5% at the point ofconnection. |
| 8. | Voltage | IEEE 519CEA (Technical Standards for Connectivity of theDistributed Generation Resources) Regulations 2013 | The voltage-operating window should minimizenuisance tripping and should be under operating range of 80% to110% of the nominal connected voltage. Beyond a clearing time of2 second, the Solar Plant must isolate itself |

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|---|---|---|---|
| | | | from the grid. |
| 9. | Flicker | IEEE 519CEA (Technical Standards for Connectivity of theDistributed Generation Resources) Regulations 2013 | Operation of Solar Plant should not causevoltage flicker in excess of the limits stated in IEC 61000standards or other equivalent Indian standards, if any. |
| 10. | Frequency | IEEE 519CEA (Technical Standards for Connectivity of theDistributed Generation Resources) Regulations 2013 | When the Distribution system frequency deviatesoutside the specified conditions (50.5 Hz on upper side and 47.5Hz on lower side), There should be over and under frequency tripfunctions with a clearing time of 0.2 seconds. |
| 11. | DC injection | IEEE 519CEA (Technical Standards for Connectivity of theDistributed Generation Resources) Regulations 2013 | Should not inject DCpower more than 0.5% of full rated output at the interconnectionpoint or1% of rated inverter output current intodistribution system under any operating condition. |
| 12. | Power Factor | IEEE 519CEA (Technical Standards for Connectivity of theDistributed Generation Resources) Regulations 2013 | While the output of the inverter is greater than50%, a lagging power factor of greater than 0.9 should operate. |
| 13. | Islanding and Disconnection | IEEE 519CEA (Technical Standards for Connectivity of theDistributed Generation Resources) Regulations 2013 | The Solar Project in the event of fault, voltageor frequency variations must island/disconnect itself within IECstandard on stipulated period. |
| 14. | Overload and Overheat | IEEE 519CEA (Technical Standards for Connectivity of theDistributed Generation Resources) Regulations 2013 | The inverter should have the facility toautomatically switch off in case of overload or overheating andshould restart when normal conditions are restored. |
| 15. | Paralleling Device | IEEE 519CEA (Technical Standards for Connectivity of | Paralleling device of Solar System shall becapable of withstanding 220% of the |

| | | | |
|---|---|---|---|
| | | theDistributed Generation Resources) Regulations 2013 | normal voltage at theinterconnection point. |
| 16. | Note:The standards/specifications shall be subject toamendments/revisions from time to time by the DistributionLicensee and the State Agency on respective websites. | | |

ANNEXURE-1 Procedure for Application for connectivity of Solar Project with Distribution Licensee's Network(a)A Consumer intending to set up a Solar Project or who has already installed such a system may download the Application Form from the concerned Distribution Licensee's website and submit it, duly filled, along with technical details of the Project to the concerned office of the Distribution Licensee along with registration fee, or apply 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 Solar Project;iv. Available cumulative capacity of relevant Distribution Transformer;(d)Before rejecting any application for setting up a Solar Project 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 Solar Project. The approval shall indicate the maximum permissible capacity of the Project, and shall be valid for a period of 4 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 Solar Project.(g)The Distribution Licensee shall complete the testing and commissioning of the Project within 10 working days from receipt of such request, and shall install the Net Metering equipment and synchronize the Roof-top Solar PV System within 10 working days thereafter.(h)The Eligible Consumer and Distribution Licensee shall enter into a Net Metering Connection Agreement in the prescribed format (Annexure-3) after the Solar Project is installed but before it is synchronized with the distribution network.ANNEXURE-2 Model Application Form for installation of Solar Project under Net Metering arrangementName of Distribution Licensee [ ]Name of Administrative Office [ ](To be filled by the Applicant in Block Letters)

1. Applicant's Full Name :
2. Address of the premises at which Solar Projectis to be installed. :

| | | |
|---|---|---|
| 3. | Telephone/Mobile No. | : |
| 4. | E-mail ID (if available) | : |
| 5. | Alternate Address for communication (if any) | : |
| 6. | Category of existing electricity connection | : |
| 7. | Consumer No. | : |
| 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 Roof-top Solar PV Systemto be installed (in kW). | : |
| 11. | Voltage at the output of Solar inverter (involts). | : |
| 12. | Details of Registration Fee paid (Rs. 500/-). | : |

Date : _____

Signature of Applicant.

Application No. _____

Date of Receipt _____

List of documents attached with Application Form

**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 PV modules, Inverter and other equipment of system proposed to be installed.**

**4. Proof of payment of Registration Fee.**

.....AcknowledgementReceived an Application from ..... for connectivity/installation of Solar Project of capacity of ..... kW as per details below: -

| Date of Receipt | Applicant's Name | Application Number | Existing Consumer No. | Capacity of Rooftop Solar PV System |
|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) |

Date :(Signature and Designation of Authorized Officer).ANNEXURE - 3 Model Net Metering Connection AgreementThis 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,AndThe 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 Joint Electricity Regulatory Commission (Solar PV Grid Interactive System based on Net Metering) Regulations, 2019 (herein after referred to as `the Net Metering 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 Solar Project of _____ kilowatt;Both Parties hereby agree as follows: -

## 1. Eligibility. - The Solar Project meets the applicable norms for being integrated into the Distribution Network, and that the Eligible Consumer shall maintain the Project accordingly for the duration of this Agreement.

## 2. Technical and Inter-connection Requirements. - 2.1. The metering arrangement and the inter-connection of the Solar Project with the network of the Licensee shall be as per the provisions of the Net Metering 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.

2.2The Eligible Consumer agrees, that he shall install, prior to connection of the Solar Project 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.2.3The Licensee shall specify the interface/inter-connection point and metering point.2.4The 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.

3.2The design, installation, maintenance and operation of the Solar Project shall be undertaken in a manner conducive to the safety of the Roof-top Solar PV System as well as the Licensee's Network.3.3If, at any time, the Licensee determines that the Eligible Consumer's Solar Project 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 Solar Project from the distribution network upon direction from the Licensee, and shall undertake corrective measures at his own expense prior to re-connection.3.4The 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 Solar Project 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 Solar Project to the distribution Network.

## 5. Period of Agreement, and Termination. - This Agreement shall be for a period for 25 years, but may be terminated prematurely

(a)By mutual consent; or(b)By the Eligible Consumer, by giving 30 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 Net Metering 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.

## 6. Access and Disconnection. - 6.1. The Eligible Consumer shall provide access to the Licensee to the metering equipment and disconnecting devices of Solar Project, both automatic and manual, by the Eligible Consumer.

6.2If, in an emergent or outage situation, the Licensee cannot access the disconnecting devices of the Solar Project, both automatic and manual, it may disconnect power supply to the premises.6.3Upon termination of this Agreement under Clause 5, the Eligible Consumer shall disconnect the Solar Project 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 Solar Project, connectivity with the distribution network and operation of the System.

7.2The 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 Net Metering Regulations.

8.2The Licensee shall not be liable to compensate the Eligible Consumer if his Solar Project is unable to inject surplus power generated into the Licensee's Network on account of failure of power supply in the grid/Network.8.3The existing metering System, if not in accordance with the Net Metering Regulations, shall be replaced by a bidirectional meter (whole current/CT operated), and a separate generation meter may be provided to measure Solar power 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.8.4The uni-directional and bi-directional meters shall be fixed in separate meter boxes in the same proximity.8.5The Licensee shall issue monthly electricity bill for the net metered energy on the scheduled date of meter reading. If the exported energy exceeds the imported energy, the Licensee shall show the net energy exported as credited Units of electricity as specified in the Net Metering Regulations, 2019. If the exported energy is less than the imported energy, the Eligible Consumer shall pay the Distribution Licensee for the net energy imported at the prevailing tariff approved by the Commission for the Consumer category to which he belongs.

## 9. Connection Costs. - The Eligible Consumer shall bear all costs related to the setting up of the Solar Project, excluding the Net Metering Arrangement cost beyond the Net 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.

10.2Disputes pertaining to billing / payments and metering shall be referred to the Consumer Grievances Redressal Forum (CGRF) and then to the Ombudsman appointed under sub-section 6 of Section 42 of the Act for settlement in case the same is not resolved at CGRF.In the witness, where of (Name)_____ for and on behalf ofEligible Consumer and (Name)_____ for and on behalf of(Licensee)agree to this agreement.