

Model Regulation for Grid Interactive Distributed Renewable Energy Sources



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In exercise of the powers conferred under sections 42, 61, 66, 86(1)(e) and 181 of the Electricity Act, 2003 (Act 36 of 2003) and all other powers enabling it in this behalf, and after previous publications, the(Name of State) Electricity Regulatory Commission hereby makes the following Regulations for the grid interactive distributed renewable energy sources:

Part — A Preliminary

1. Short title, and commencement

- i. These Regulations may be called the (Name of State) Electricity Regulatory Commission (Grid Interactive Distributed Renewable Energy Sources) Regulations, 20xx
- ii. These Regulations may come into force from the date of their notification in the Official Gazette
- iii. These Regulations shall extend to the whole of the State of.....

2. Definitions and interpretations

- i. In these Regulations, unless the context otherwise requires,
 - a) “Act” means the Electricity Act, 2003 (36 of 2003) and subsequent amendments thereof;
 - b) “Agreement” means an agreement entered into by the distribution licensee with the person;
 - c) “Billing Cycle or Billing Period” means the period for which regular electricity bills are prepared for different categories of consumers by the distribution licensee, as specified by the Commission;
 - d) “Commission” means the(Name of State) Electricity Regulatory Commission constituted under the Act;
 - e) “Contract Demand” or “Sanctioned Load” means the maximum demand in kW, kVA or BHP, agreed to be supplied by the licensee and indicated in the agreement executed between the licensee and the consumer;

- f) “Distributed Renewable Energy”(DRE) means the electricity fed into the electric system at a voltage level of below 33 KV using rooftop solar PV system [or such other forms of renewable sources as may be approved by the Commission from time to time or as recognized by the Ministry of New and Renewable Energy, Government of India]¹;
- g) “Financial Year” or “Year” means the period beginning from first of April in an English calendar year and ending with the thirty first of the March of the next year;
- h) “Generation Meter” means an energy meter installed at the point at which electricity generated by the renewable energy system is delivered to the eligible consumer;
- i) “Hosting capacity” means capacity defined under Regulation 14 of these Regulations;
- j) “Independent Distributed Renewable Energy System” or “IDRES” means a distributed renewable energy system set up by any person, connected to the distribution licensee network and selling electricity to the distribution licensee under a Power Purchase Agreement;
- k) IDRES owner is a person who owns the IDRES plant.
- l) “Interconnection point” means the interface of the renewable energy 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 ‘inter-connection point’ shall mean the interface of the renewable energy system with the outgoing terminals of the distribution licensee’s metering cubicle placed before such consumer’s apparatus;
- m) “Invoice” means either a monthly bill/supplementary bill or a monthly invoice/supplementary invoice raised by the distribution licensee
- n) “kWp” means kilo Watt peak;
- o) “Net billing” means an arrangement as defined under Regulation 17 of these Regulations;
- p) “Net meter” or “bidirectional meter” means an energy meter which is capable of recording both import and export of electricity;
- q) "Net metering" means an arrangement under which renewable energy system installed at eligible consumer premises delivers surplus electricity, if any, to the distribution licensee after offsetting the electricity supplied by distribution licensee during the applicable billing period.
- r) “Obligated entity” means the entity mandated under clause (e) of subsection (1) of section 86 of the Act and identified underRPO Regulations;
- s) “Premises” means rooftops [or/and elevated areas on the land, building or infrastructure or part or combination thereof]² in respect of which a separate meter or

¹ [] to be incorporated to cover RE sources other than Rooftop Solar PV under DRE framework

² [] to be incorporated if decided by the Commission, to cover RE sources other than Rooftop Solar PV and premises other than rooftop under DRE framework

metering arrangements have been made by the licensee for supply of electricity.

- t) “Prosumer” is a person who consumes electricity from the grid and can also inject distributed renewable energy into the grid using the same network.
- u) “Prosumer Distributed Renewable Energy System” or “PDRES” means a distributed renewable energy system set up by the prosumer under net metering or net billing.
- v) “Renewable energy” means the grid quality electricity generated from renewable energy sources, including a combination of such sources;
- w) “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;
- x) “Renewable Energy Service Company (RESCO)” means an 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.

- y) “Renewable Energy System” means the generating station that generates electricity from renewable energy source(s) or combination thereof.
- z) “Rooftop Solar PV System” means the solar photo voltaic power system installed on the rooftops of consumer premises that uses sunlight for direct conversion into electricity through photo voltaic technology.
- aa) “Settlement Period” means the period at the end of which net-metering/net billing settlement between the distribution licensee and the prosumer takes place, generally beginning from first of April in an English calendar year and ending with the thirty first of the March of the next year.
- bb) “State Nodal Agency” or “SNA” means an entity in the State, designated by the State Government to act as the agency to deal with issues related to coordinated development of renewable energy; subsidy approval and disbursement to persons developing distributed energy projects, etc.

- ii. All other words and expressions used in these Regulations, although 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 law passed by the Parliament applicable to the electricity industry in the State shall have the meaning assigned to them in such law.

3. Scope and applicability

- i. These Regulations would apply to:
 - a) PDRES owned by prosumer or RESCO
 - b) IDRES installed in the area of supply of the distribution licensee
- ii. These Regulations do not preclude the right of any person to undertake renewable energy

projects through alternative mechanism.

- iii. The consumer availing open access under Section 42(2) of the Act may establish renewable energy systems in its premises³ only if it is under the IDRES.

4. Control period:

- i. The Regulations shall come into force from the date of notification in the Official Gazette.

5. Web based application processing system

- i. The distribution licensee shall implement a web-based application processing system for processing the applications for distributed renewable energy systems within three months from the date of notification of these Regulations.
- ii. Matters related to subsidy application shall be dealt by the State Nodal Agency.

6. Monitoring and reporting framework

- i. The distribution licensee shall annually publish on its website information related to DRE capacity added during the year and cumulative capacity on each element of the distribution system.
- ii. The distribution licensee shall every year submit information related to the capacity added and energy procured from DRE systems within one month from the end of financial year.

³ As defined under sub-clause (s) of clause (i) of Regulation 2

Part — B
Renewable Purchase Obligation

7. General principles

i. Renewable Purchase Obligation:

Distribution Licensee shall purchase 0.25%, 0.50% and 0.75% of its total energy requirement from distributed renewable energy sources in FY2020, FY 2021 and FY2022, respectively.

ii. Renewable Purchase Obligation

The quantum of distributed renewable energy generation as recorded by the generation meter shall be accounted by the distribution licensee towards compliance of its Renewable Purchase Obligation (RPO) as stipulated in these Regulations.

Provided that in case the renewable energy system is set up by an obligated entity, entire renewable energy generated by these renewable energy systems shall be accounted for RPO compliance by the obligated entity.

iii. Eligibility to participate under Renewable Energy Certificate mechanism

The issuance of Renewable Energy Certificate shall be as per the eligibility criteria specified under 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.

Part — C
Technical Standards and Safety, Metering Infrastructure

8. Interconnection with the grid: technical standards and safety

- i. The voltage level for interconnection with the grid shall be as specified in the Electricity Supply Code or the voltage level at which the prosumer has been given supply by the distribution licensee.

Provided that the HT consumer executing the renewable energy project under net metering framework may connect the renewable energy system at its LT bus bar. The metering shall be done at HT level bus bar at the same voltage the consumer is presently connected with the distribution licensee.

- ii. The interconnection of the renewable energy system with the network of the distribution licensee shall be as per the CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013 and subsequent amendments thereof.
- iii. The interconnection of the renewable energy system with the distribution system of the licensee shall conform to the relevant provisions of the CEA (Measures Relating to Safety and Electric Supply), Regulations, 2010 and subsequent amendments thereof.
- iv. The prosumer shall be responsible for safe operation, maintenance and rectification of any defect of the renewable energy system up to the point of net meter, beyond which the responsibility of safe operation, maintenance and rectification of any defect in the system, including the net meter, shall be that of the distribution licensee.
- v. The distribution licensee shall have the right to disconnect the renewable energy system at any time in the event of threat/damage from such renewable energy system to its distribution system to prevent any accident or damage, without any notice. The distribution licensee may call upon the prosumer to rectify the defect within a reasonable time.
- vi. The renewable energy system must be capable of detecting an unintended islanding condition. The system must have anti-islanding protection to prevent any feeding into the grid in case of failure of supply or grid. Applicable IEC/IEEE technical standards shall be followed to test islanding prevention measure for grid connected inverters.
- vii. The prosumer may install grid interactive renewable energy system with or without battery backup.

Provided that if the consumer prefers setting up renewable energy system with battery backup (full load backup/partial load backup), in all such cases the inverter shall have appropriate arrangement to prevent the battery power to flow into the grid in the absence of grid supply and manual isolation switch shall also be provided.

- viii. Every renewable energy system shall be equipped with an automatic synchronization device.

Provided that the renewable energy system using inverter shall not be required to have separate synchronizing device if it is inherently built into the inverter.

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

9. Metering infrastructure

- i. All meters installed at the renewable energy system shall comply with the CEA (Installation and Operation of Meters) Regulations, 2006 and subsequent amendments thereof.
- ii. All meters shall have Advanced Metering Infrastructure (AMI) facility with RS 485 (or higher) communication port.
- iii. The generation and net meter(s) shall be procured, installed and maintained by the distribution licensee. However, if the prosumer wishes to procure the meter(s), he may procure and present them to the distribution licensee for testing and installation.
- iv. In case of renewable energy system set up under net billing arrangement or DRE promotion arrangement, an additional check meter for generation meter of appropriate class shall be installed by the distribution licensee.
- v. The distribution licensee shall undertake meter testing before installation to ensure accuracy of the meter.
- vi. The meter shall be jointly inspected by both the prosumer or the third party owner, as the case may be, and the distribution licensee, and shall be sealed by the distribution licensee.
- vii. The meter shall be tested or checked only in the presence of the representatives of the prosumer or the third party owner, as the case may be, and the distribution licensee and as per the procedure specified in the Electricity Supply Code.
- viii. If the eligible consumer is under the ambit of time of day tariff, both generation and net meter shall be capable of recording time of day consumption/generation.
- ix. The distribution licensee, within three months of the date of notification of these Regulations, shall modify its existing billing infrastructure to facilitate the metering arrangements as envisaged under these Regulations.

Part — D
Net Metering and Net Billing Arrangement

10. Prosumer and project capacity

i. Prosumer

- a) Any consumer in the area of the distribution licensee shall be eligible to establish [distributed renewable energy]⁴ systems under net metering or net billing arrangement on a first-come-first-serve basis, subject to the technical limitations as outlined in these Regulations and shall be called Prosumer.
- b) The prosumer may own the PDRES or may enter into a contract with the RESCO for the establishment of the PDRES.
- c) The prosumer may avail either the net metering or the net billing mechanism to set up prosumer [distributed renewable energy]³ system under these Regulations.

Provided

, the prosumer shall not be eligible to establish two or more systems using both net-metering and net-billing mechanism.

ii. Individual project capacity

- a) The capacity of PDRES shall not exceed the sanctioned load/contract demand of the prosumer.
Provided further that minimum size of renewable energy system that can be set up under net metering and net-billing arrangement would be 1 kW and 10kW respectively.
- b) The prosumer is allowed to set up [distributed renewable energy]³ system with battery storage.

11. Net metering arrangement

- a) The prosumer may set up [distributed renewable energy]³ system to offset the prosumer's electricity consumption from the distribution licensee.
- b) The renewable energy system installed at the prosumer's premises⁵ delivers excess electricity, if any, to the distribution licensee after offsetting the electricity supplied by the distribution licensee during the applicable billing period.
- c) The distribution licensee shall procure any excess energy generated by PDRES at rooftop solar tariff discovered through competitive bidding undertaken by SECI or distribution licensee in the last financial year or such other reference rate as may be determined by the Commission.

⁴ As defined under sub-clause (f) of clause (i) of Regulation 2

⁵ As defined under sub-clause (s) of clause (i) of Regulation 2

- d) The energy accounting and settlement under this arrangement shall be in accordance with Regulation 17.

12. Net billing arrangement

- a) The prosumer may set up [distributed renewable energy]³ system to offset the prosumer's electricity purchase bill from the distribution licensee.
- b) The distribution licensee shall procure energy generated by PDRES at the rate determined by the Commission from time-to-time for such systems.
- c) The energy accounting and settlement under this arrangement shall be in accordance with Regulation 17.

13. Role of the distribution licensee

- i. The distribution licensee may undertake demand aggregation and other related activities to effectively deploy [distributed renewable energy]⁶ in its area of supply.
- ii. The distribution licensee may act as RESCO or Engineering, Procurement, and Construction (EPC) contractor to undertake the deployment of the DRE.

In case the distribution licensee acts as a RESCO or EPC, such activity of the distribution licensee shall be considered as part of its other business as per the provisions of the *Tariff Regulations*.

14. Hosting capacity:

The cumulative capacity of distribution renewable energy systems allowed to be interconnected with the distribution network (feeder/distribution transformer) shall not exceed 100% of the feeder and/or distribution transformer capacity, as applicable.

Provided that the feeder/transformer mentioned above, considered for the purpose of calculating the hosting capacity, shall mean the feeder/transformer owned by the distribution licensee.

15. Interconnection point

- i. In case of net metering, the interface point shall be the appropriate meter as per CEA (Installation and Operation of Meters) Regulations, 2006, installed at consumer's premises i.e., prosumer side of the meter.
- ii. In case of net billing, the interface point shall be on the licensee side of the meter.

16. Application process and procedure

i. Filing of application

⁶ As defined under sub-clause (f) of clause (i) of Regulation 2

- a) The prosumer (applicant) may either apply online on the distribution licensee website and/or <state nodal agency> website. <fee details>
- b) An applicant that is Trust/Committee/Housing Society/Partnership Firm/Company etc. shall submit the Application Form along with an Authorization Certificate.
- c) The applicant shall receive an acknowledgement email/short message service (SMS) on submission of the application. The acknowledgement email/SMS shall provide a unique registration number assigned to each applicant for future correspondence.
- d) The distribution licensee shall maintain a separate Application Register (manual or online) for reference and records.

ii. **Application processing**

- a) After submitting the application form, the distribution licensee shall undertake technical feasibility within 15 days of the date of acknowledgement issued to the applicant.
- b) The distribution licensee shall undertake feasibility check and submit it to the Concerned Officer of the respective division.
- c) 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 15 days from the issuance of acknowledgement of the application.
- d) In case of any deficiencies found in the application, on account of renewable energy system capacity and available transformer loading as specified under these Regulations, during technical feasibility study, the same shall be intimated by the distribution licensee to the applicant through email/SMS notification within 22 days from the date of issuance of acknowledgement of the application.
- e) The applicant shall remove all identified deficiencies within a period of 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 satisfaction. In case deficiencies are not removed in the said period, the application shall stand cancelled.

- f) In case the technical feasibility is negative/non-satisfactory, it shall be intimated to the applicant within 22 days from the issuance of the acknowledgement of the application.

Provided that the technical feasibility is negative/unsatisfactory, the application shall not stand rejected and shall be put on a priority wait list. As and when the technical feasibility is re-established, the application which have been put on priority waiting list shall be considered first before processing any new application.

iii. **Approval for installation**

- a) The applicant shall install the renewable energy system within 180 days of receiving the LoA, as per the Standards/Codes specified under these Regulations.
- b) The aforesaid duration of 180 days is the maximum permissible time for the applicant to install the renewable energy system, until an extension is provided in writing by the distribution licensee. However, the applicant shall be at liberty to complete the installation process before this period and approach the distribution licensee to initiate subsequent steps.
- c) In case the prosumer fails to install the system within 180 days, the application shall stand cancelled and the prosumer shall need to re-apply.

iv. **Signing of agreement**

- a) The applicant shall submit a duly filled agreement to the distribution licensee within 30 days of the date of issuance of LoA.
- b) The agreement shall be then signed by the distribution licensee within three days of receipt of duly filled net metering agreement from the applicant.

v. **Procurement of meters**

- a) In case the applicant intends to procure meter from the distribution licensee, the applicant shall submit the Intimation Form along with an appropriate procurement fee to the distribution licensee. This shall be intimated to the distribution licensee at least 30 days prior to the expected date of submission of Work Completion Report.
- b) In case the applicant intends to procure meter on its own, the applicant shall submit the procured meter along with a safety certificate and request form for testing of meter to the distribution licensee/test centres approved by the distribution licensee, at least 30 days prior to the expected date of submission of Work Completion Report.

Provided that the meter procured by the applicant should comply with the appropriate technical standards of the CEA and specifications of the distribution licensee.

Provided further, the distribution licensee shall notify meter specification(s) within one month from the date of notification of these Regulations.

- c) The distribution licensee/test centres shall intimate the applicant regarding the completion of the meter testing.

vi. **Work completion and commissioning**

a) For system size greater than 500 kW:

- i. The applicant shall submit the Work Completion Report to the <Office of Chief Electrical Inspector, name of State> with a copy to the distribution licensee. In case the consumer is availing subsidy, the copy of work completion report shall also be shared with the <State Nodal Agency>.
- ii. The appropriate authority, as specified above, shall undertake system inspection and safety checks, as per the applicable practices, within seven days of submission of Work Completion Report and the issue safety certificate.

Provided that in case the Work Completion Report is not satisfactory, the applicant shall resolve the discrepancies within seven days of receiving the intimation from the appropriate authority, and resubmit the Work Completion Report.

- iii. The applicant shall submit the safety certificate issued as above to the distribution licensee within three days from the date of receipt of the same.
- iv. The distribution licensee, within seven days of receiving the safety certificate, shall synchronize the system with the distribution grid post verification of the Work Completion Report, install meters and issue letter of synchronization and Date of Commissioning (COD) to the applicant.

b) For system size less than 500kW:

- i. The applicant shall submit the Work Completion Report to the distribution licensee. In case the consumer is availing subsidy, the copy of Work Completion Report is also to be shared with the <State Nodal Agency>.
- ii. The distribution licensee shall undertake system inspection and safety checks, as per the applicable practices, within seven days of submission of the Work Completion Report and undertake system synchronization.

Provided that in case the Work Completion Report is not satisfactory, the applicant shall resolve the discrepancies within seven days of receiving the intimation from the appropriate authority, and resubmit the Work Completion Report.

- iii. The distribution licensee shall synchronize the system with the distribution grid post verification of the Work Completion Report, install meters and issue letter of synchronization and Date of Commissioning (COD) to the applicant.

17. Energy accounting and settlement – Net metering/Net billing/Both⁷

[17.1 Net Metering – Energy Accounting and Settlement]

- i. The distribution licensee shall undertake meter reading of all PDRES according to the regular metering cycle.
- ii. The distribution licensee shall record readings of both generation meter and bidirectional consumer meter.
- iii. For each billing period, the distribution licensee shall make the following information available on its bill to consumer:
 - a) DRE generation recorded in the generation meter;
 - b) Electricity injected by PDRES in the grid in the billing period, including opening and closing balance;
 - c) Electricity supplied by the distribution licensee in the billing period, including opening and closing balance;
 - d) Net billed electricity, for which a payment is to be made by the prosumer;
 - e) DRE generation used by it for RPO compliance;
 - f) Excess electricity carried forward from the last billing period;
 - g) Excess electricity carried forward to the next billing period.
- iv. In case the electricity injected by the renewable energy system exceeds the electricity consumed during the billing period, such excess injected electricity shall be carried forward to the next billing period as excess electricity and may be utilized in the following billing periods but within the same settlement period;
- v. In case the electricity supplied by the distribution licensee during any billing period exceeds the electricity injected in the grid by the PDRES, the distribution licensee shall raise a bill for the net electricity consumption after taking into account any excess electricity carried forward from the previous billing period;
- vi. In case the prosumer is under the ambit of time of day tariff, as determined by the Commission from time to time, the following process shall be followed:
 - a) Electricity consumption in any time block (e.g., peak hours, off-peak hours, etc.) shall be first compensated with the electricity generation in the same time block.
 - b) Any excess generation over consumption in any time block in a billing cycle shall be accounted as if the excess generation occurred during the immediately lower tariff time block.
 - c) This process will continue till all consumption in lower tariff blocks is set off against PDRES generation.

⁷ To be as per the model chosen by SERC

- d) Any excess generation after setting off consumption in lower tariff time blocks would be carried forward to the next billing cycle.
 - e) Same process would be used to set off consumption in the subsequent billing cycle.
- vii. The excess electricity at the end of settlement period shall be settled by the distribution licensee as per Regulation 11(c).

Provided further that at the beginning of each settlement period, i.e., April, carried forward electricity shall be zero.

- viii. The injected electricity measured in kilowatt hour (kWh)/kVAh shall only be utilized to offset the consumption measured in kWh/kVAh and shall not be utilized to compensate any other fee and charges levied by the distribution licensee;
- ix. In case, the consumer tariffs have been determined by the Commission on kVAh basis, the generation and consumer meter readings shall also be taken in kVAh and settlement of energy done accordingly.
- x. Regardless of availability of excess electricity with the prosumer during any billing period, the consumer will continue to pay all other charges such as fixed/demand charges, Government levy, etc.
- xi. The distribution licensee shall accept the power as per the useful life of the PDRES unless the prosumer ceases to be a consumer of the licensee or PDRES is abandoned earlier.
- xii. In case the prosumer leaves the system, the excess electricity shall be considered as inadvertent injection and shall not be paid for by the distribution licensee.
- xiii. The PDRES installed under these Regulations shall be exempted from all wheeling, cross subsidy, transmission and distribution and banking charges and surcharges.

[17.2 Net Billing – Energy Accounting and Settlement

- i. Net billing is the arrangement where DRE plant is:
 - a. Installed to serve a specific consumer,
 - b. Connected on the utility side on the consumer meter,
 - c. Selling power to a distribution licensee under Power Purchase Agreement, and
 - d. Entire power is consumed by the consumer.
- ii. The distribution licensee shall enter into Power Purchase Agreement at tariff to be determined by the Commission.
- iii. Entire quantum of electricity generated by the DRE plant shall be procured by the distribution licensee.
- iv. The distribution licensee shall enter into a Power Sale Agreement with the consumer for sale of entire quantum of power generated by the relevant DRE plant.

- v. Power procured by the distribution licensee shall be sold to the consumer as per Power Sale Agreement to be approved by the Commission.
- vi. Rate of sale of power to the consumer shall be the same rate as determined by the Commission for procurement of power from DRE plant.
- vii. The distribution licensee shall raise bill on the consumer in accordance with the following equation:
- viii. Energy Bill of consumer = Fixed charges + other applicable charges and levies + (EDL * TRST) - (ERE * TPSA) – 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 means any other charges such as municipal tax, cess, etc.;
 - c) E_{RE} means the energy units recorded for the billing period by the DRE Plant's generation meter;
 - d) T_{PSA} means the energy charges as per the energy sale agreement signed between the consumer and distribution licensee;
 - e) E_{DL} means the energy units supplied (i.e. Gross Electricity Consumption) by the distribution licensee as recorded by the consumer meter for the billing period;
 - f) T_{RST} means the applicable retail supply tariff of the concerned consumer category as per the retail supply Tariff Order of the Commission;
 - g) Billing Credit is the amount by which the value of DRE generation in a particular month is more than the value of all other components of consumer bill
- ix. In case the consumer is subjected to time of day tariffs, energy bill ($E_{DL} * T_{RST}$) shall be computed accordingly.
 - x. In case ($E_{RE} * T_{PSA}$) is more than (Fixed charges + other applicable charges and levies + ($E_{DL} * T_{RST}$)), utility shall give credit of amount equal to difference (Billing Credit), which shall be carried forward to the next billing cycle.
 - xi. Such Billing Credit would be carried forward for the settlement period. At the end of the settlement period, if there is any outstanding Billing Credit, it shall not be paid by the distribution licensee.
 - xii. For each billing period, the distribution licensee will make the following information available on its bill to the consumer:
 - a) DRE generation recorded in generation meter;
 - b) Electricity injected by DER plant in the grid in the billing period, including opening and closing balance;
 - c) Electricity supplied by the distribution licensee in the billing period, including opening and closing balance;

- d) DRE generation used by distribution licensee for RPO compliance;
- e) Billing Credit carried forward from the last billing period;
- f) Billing Credit carried forward to next billing period.]

18. Energy accounting during meter defect/failure/burnt

- i. In case of defective/failure/burnt condition of any meter, the prosumer shall report the failure, to the distribution licensee in the specified format of distribution licensee.
- ii. The distribution licensee shall replace the meter as specified in the Electricity Supply Code.
- iii. The electricity generated by the renewable energy system during the period in which the meter is defective shall be computed on normative basis.
- iv. In case of IDRES plant, energy recorded in check meter would be considered by IDRES owner for the purpose of billing the distribution licensee.

Part — E
Independent Distributed Renewable Energy Systems

19. Eligibility and project capacity

i. Eligibility

- a) Any person shall be eligible to establish and interconnect IDRES with the network of distribution licensee on a first-come-first-serve basis.

Provided that the IDRES conforms to the provisions under the CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013.

ii. Individual project capacity

- a) The maximum IDRES capacity, to be installed by a person at a particular location, shall be based on the capacity and configuration of the electricity system, and in the power flows that distributed generation resource may cause.

Provided further that minimum size of [distributed renewable energy]⁸ system that can be set up under this arrangement shall be 50 kW.

Provided further that any person may set up IDRES on the premises⁹ of a prosumer and the individual project capacity limit as applicable as per IDRES guidelines.

- b) The person is allowed to set up [distributed renewable energy]⁶ system with battery storage.

Provided that the flow of energy from IDRES to the grid is never more than the rated capacity of the IDRES.

20. Role of the Distribution Licensee

- i. In order to facilitate procurement of power from IDRES plants, the Commission shall notify feed-in tariff under Section 62 of the Act.

- a) The distribution licensee shall enter into an agreement for procurement of [distributed renewable energy]⁶ from IDRES plant on first-cum-first-serve basis.
- b) The distribution licensee shall prepare technical guidelines for connecting IDRES plants to distribution network and seek approval of the Commission for the same.
- c) The distribution licensee shall notify administrative procedures within three months of the date of notification of these Regulations.
- d) The distribution licensee shall announce the quantum of renewable energy it can absorb at each distribution substation/feeder.

- ii. The distribution licensee may undertake procurement of power from IDRES plants under

⁸ As defined under sub-clause (f) of clause (i) of Regulation 2

⁹ As defined under sub-clause (s) of clause (i) of Regulation 2

Section 63 of the Act.

Provided that the Ministry of Power, Government of India, has issued appropriate bidding guidelines for the same.

- iii. The distribution licensee shall accept application from any person interested in setting up a distributed renewable energy system on case to case basis without any prejudice.

[Provided that the applicable feed in tariff for such systems shall be determined by the Commission either on case-by-case basis or during the annual feed in tariff determination for renewable energy, as applicable.]

- iv. Energy procured by the distribution licensee under IDRES plants shall be considered as a part of procurement under Section 86(1)(b) of the Act.

21. Interconnection point

- i. [In case a person sets up IDRES, the Interconnection Point shall mean a point on the network of the distribution licensee, including a sub-station or a switchyard, where the interconnection is established between the IDRES and the distribution system and where electricity injected into the distribution system can be measured unambiguously.]

Provided that, the interface point shall be as per CEA (Installation and Operation of Meters), Regulations, 2006 and subsequent amendments thereof.

Part — F
Governance Structure, Institutional Framework, Roles and Responsibilities

22. Role of Stakeholders

i. Role of the Distribution Licensee

- a) The distribution licensee shall provide information regarding feeder/distribution transformer hosting capacity available for connecting renewable energy system within three (3) months from the date of notification of these Regulations. The distribution licensee thereafter shall annually publish on its website cumulative installed capacity of the renewable energy systems and available hosting capacity.
- b) The distribution licensee shall maintain a record of DRE systems set up under these Regulations with details including the type and capacity of renewable energy system and submit quarterly report within fifteen days of the previous quarter to the Commission with intimation to the State Nodal Agency.
- c) The distribution licensee shall adopt and notify the procedures and formats including standard “Agreement” form as specified under these Regulations and upload the same on its website for information of stakeholders within one month of the notification of these Regulations.
- d) The distribution licensee shall undertake technical studies to assess the impact of penetration of DRE systems on the distribution system
- e) The distribution licensee shall undertake technical studies to assess the impact of different types of storage systems on the distribution system.
- f) The distribution licensee shall set up a Distribute Renewable Energy Cell (DRE Cell) within three months of the notification of these Regulations.
- g) The distribution licensee may explore appropriate utility driven business models such as demand aggregation, RESCO, EPC, etc. to promote installations of distributed renewable energy in its area of supply.

23. DRE Advisory Committee

- i. The Commission shall notify DRE Advisory Committee to facilitate DRE program implementation under these Regulations.
- ii. The Advisory Committee shall meet at least once every quarter to take up the functions assigned to it and submit its proceedings to the Commission.
- iii. The Committee shall consist of the following members:
 - a) Director (Technical) of the Commission – Chairman
 - b) Representative from the State Power Department;
 - c) Representative of each distribution licensee in the State (In-Charge of DRE cell);
 - d) Representative from SNA;

- e) Representative from the Office of Electrical Inspector;
- f) Two independent external members from different Government departments;
- g) Three representatives from consumer or consumer associations representing interests of domestic, commercial, and industrial category consumers.
- h) Person in charge at SNA - Convener of the Advisory Committee;

iv. **Functions of DRE Advisory Committee**

- a) Advise the distribution licensee(s) to develop consumer friendly procedures, billing systems, etc.
- b) Develop technical standards for DRE impact assessment, load flow studies, etc.
- c) Develop reporting requirements for the distribution licensees
- d) Develop standards for data exchange between DRE system and the distribution licensee
- e) Promote cross-learning among the distribution licensees and other stakeholders
- f) Assist in developing common programs across the distribution licensees
- g) Develop common programs for training/capacity building
- h) Advise the distribution licensee(s) in developing common monitoring & reporting framework and maintenance of database
- i) Assist the Commission on issue that may be referred to it

24. Distributed Renewable Energy (DRE) Cell

- i. Each distribution licensee shall constitute an in-house DRE Cell, to promote DRE deployment in its area of supply.
- ii. DRE Cell shall be constituted within one month from the date of notification of these Regulations.
- iii. DRE Cell shall be headed by an officer of rank not below that of Superintending Engineer or equivalent.
- iv. DRE Cell shall be provided with necessary authority and resources so as to execute the functions assigned to the distribution licensee under these Regulations.
- v. **Functions of DRE Cell**
 - a) Design interconnection processes and procedures
 - b) Ensure and manage web based application system for processing DRE applications
 - c) Develop and monitor mechanism for online monitoring of DRE systems by the distribution licensee control center
 - d) Obtain regulatory approvals

- e) Guide persons desirous of setting up DRE systems in the State
- f) Facilitate training of field officers on DRE
- g) Appraise field officials about the changes in processes and procedures
- h) Ensure modifications to the billing procedures/systems to account for provisions in these Regulations
- i) Undertake monitoring and reporting as envisaged under these Regulations
- j) Coordinate with DRE Advisory Committee and attend meetings of the same
- k) Prepare standard documents, such as expression of interest, RFP, energy purchase and energy sale agreement, tripartite agreement, etc. if the distribution licensee decides to procure power through competitive bidding
- l) Prepare plan for procurement of energy from DRE sources
- m) Undertake analysis of data collected from DRE systems

Part — G
Miscellaneous

25. Penalty or compensation

- i. In case of failure to meet timelines prescribed under these Regulations, penalty of Rs. 1000 per day for each day of delay shall be levied on the distribution licensee.
- ii. The penalty accrued during the year under these Regulations will be deducted from the Return on Equity to the distribution licensee for that year.

26. Power to give directions

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

27. Power to relax

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

28. Power to amend

The Commission may from time to time add, vary, alter, suspend, modify, amend or repeal any provisions of these Regulations.

29. Power to remove difficulties

If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by an order, make such provisions, not inconsistent to the provision of the Act and these Regulations, as may appear to be necessary for removing the difficulty.

30. Repeal and savings

Save as otherwise provided in these Regulations, the Regulations¹⁰ are hereby repealed.

Provided that the renewable energy systems commissioned during the applicability of theRegulations¹¹, shall continue to be governed by the aforesaid Regulations and shall not be governed by these Regulations.

(Secretary)

¹⁰ To be as per State Regulations

¹¹ To be as per State Regulations