



PUNJAB STATE POWER CORPORATION LIMITED
(O/O Chief Engineer /Commercial, Patiala, Ph.No.0175-2214495)
Corporate Identity Number: U40109PB20108GC033813
Regd. Office- PSEB Head Office, The Mall, Patiala-147001
Tele Fax: 0175-2210320 email: ce-commercial@pspcl.in sesales123@gmail.com Website: www.pspcl.in

Commercial Circular No. 36/2021

To

**All Engineer-in-Chief/Chief Engineer (DS),
Under Punjab State Power Corporation Limited.**

Memo No. 1352/56/S-4/Net metering/19

Dated: 05/10/2021

Sub: Punjab State Electricity Regulatory Commission (Grid Interactive Rooftop Solar Photo Voltaic Systems) Regulations, 2021.

Hon'ble PSERC vide notification No. PSERC/Secy./Regu.158 of 2021 dt. 18/08/2021 has issued Punjab State Electricity Regulatory Commission (Grid Interactive Rooftop Solar Photo Voltaic Systems) Regulations, 2021.

This new notification shall be applicable from the date of its publication in the official gazette of Punjab Government on 18/08/2021. These Regulations shall be applicable to all Rooftop Solar Photo Voltaic Systems for which applications are received on or after notification of these regulations except Regulation 19 which shall also be applicable to Rooftop Solar Photo Voltaic Systems commissioned under the PSERC (Grid Interactive Rooftop Solar Photo Voltaic Systems based on Net Metering) Regulations, 2015. The Rooftop SPV systems registered under PSERC (Grid Interactive Rooftop Solar Photo Voltaic Systems based on Net Metering) Regulations, 2015 shall continue to be governed by the Net Metering Regulations and shall not be governed by these new Regulations.

Further the PSERC (Grid Interactive Rooftop Solar Photo Voltaic Systems based on Net Metering) Regulations, 2015, as amended from time to time, circulated vide CC No. 22/2015 are hereby repealed. Thus, ESIM (updated till 30.06.2018) instruction no. 127.1 may be considered amended accordingly.


Further detailed circular regarding PSERC (Grid Interactive Rooftop Solar Photo Voltaic Systems) Regulations, 2021 shall be issued shortly.

Copy of the gazette notification is enclosed herewith for information and further necessary action.

Meticulous compliance of the above instructions may please be ensured.

This issues with approval of competent authority.

DA/As above


Dy. CE/Sales-1,
For CE/Commercial,
PSPCL, Patiala.

ਪਿੱਠ ਅੰਕਣ ਨੰ: 1357/65/S-4/Net metering/19

ਮਿਤੀ: 05/10/2021

ਉਪਰੋਕਤ ਦਾ ਉਤਾਰਾ ਹੇਠ ਲਿਖਿਆਂ ਨੂੰ ਸੂਚਨਾ ਅਤੇ ਲੋੜੀਂਦੀ ਕਾਰਵਾਈ ਲਈ ਭੇਜਿਆ ਜਾਂਦਾ ਹੈ:-

1. ਮਾਨਯੋਗ ਬਿਜਲੀ ਮੰਤਰੀ, ਕਮਰਾ ਨੰ: 24, 7th ਮੰਜਿਲ, ਪੰਜਾਬ ਸਿਵਲ ਸਕੱਤਰੇਤ-1, ਚੰਡੀਗੜ੍ਹ।

2. ਵਧੀਕ ਮੁੱਖ ਸਕੱਤਰ/ਬਿਜਲੀ ਵਿਭਾਗ, ਪੰਜਾਬ ਸਰਕਾਰ, ਕਮਰਾ ਨੰ:6, ਪੰਜਾਬ ਸਿਵਲ ਸੈਕਟਰੀਏਟ, ਸੈਕਟਰ-1, ਚੰਡੀਗੜ੍ਹ।
3. ਪ੍ਰਿੰਸੀਪਲ ਸੈਕਟਰੀ/ਫਾਇਨਾਸ ਟੂ ਗੋਰਮਿੰਟ ਪੰਜਾਬ ਐਕਸ ਆਫੀਸੋ ਮੈਂਬਰ, ਪੰਜਾਬ ਸਰਕਾਰ, ਚੰਡੀਗੜ੍ਹ।
4. ਸਕੱਤਰ, ਪੰਜਾਬ ਸਰਕਾਰ/ਇੰਡ: ਅਤੇ ਕਾਮਰਸ ਵਿਭਾਗ, ਉਦਯੋਗ ਭਵਨ, ਸੈਕਟਰ-17, ਚੰਡੀਗੜ੍ਹ।
5. ਪ੍ਰੈਜ਼ੀਡੈਂਟ, ਸਟੇਟ ਡਿਸਪਿਊਟਿਡ ਰਿਡਰੈਸਲ ਕਮਿਸ਼ਨ (ਪੰਜਾਬ) ਐਸ.ਸੀ.ਓ.ਨੰ: 3009-10, ਸੈਕਟਰ-22, ਚੰਡੀਗੜ੍ਹ।
6. ਸਕੱਤਰ, ਪੀ.ਐਸ.ਈ.ਆਰ.ਸੀ., ਸਾਈਟ ਨੰ: 3, ਸੈਕਟਰ-18 ਏ, ਮਧਿਆ ਮਾਰਗ ਚੰਡੀਗੜ੍ਹ - 150018।
7. ਲੋਕਪਾਲ, ਬਿਜਲੀ, ਪੰਜਾਬ, 66 ਕੇ.ਵੀ. ਗਰਿਡ ਸਬ ਸਟੇਸ਼ਨ, ਪਲਾਟ ਨੰ: ਏ-2, ਉਦਯੋਗਿਕ ਖੇਤਰ, ਫੇਸ.1, ਐਸ.ਏ.ਐਸ. ਨਗਰ (ਮੋਹਾਲੀ)-160055
8. ਨਿੱਜੀ ਸਕੱਤਰ ਟੂ ਬਿਜਲੀ ਮੰਤਰੀ, ਪੰਜਾਬ ਸਿਵਲ ਸਕੱਤਰੇਤ, ਪੰਜਾਬ ਸਰਕਾਰ, ਚੰਡੀਗੜ੍ਹ।
9. ਚੀਫ ਕੋ-ਆਰਡੀਨੇਟਰ, ਉਦਯੋਗ ਸਹਾਇਕ ਡਾਇਰੈਕਟਰ ਆਫ ਇੰਡੀਸਟਰੀਜ਼ ਪੰਜਾਬ, ਸੈਕਟਰ -17, ਚੰਡੀਗੜ੍ਹ।

11/5/21

ਸੀ.ਕਾ.ਕਾ.ਇੰਜ/ਸ਼ੇਲਜ-4,
ਵਾ: ਮੁੱਖ ਇੰਜੀਨੀਅਰ/ਵਣਜ,
ਪੀ.ਐਸ.ਪੀ.ਸੀ.ਐਲ., ਪਟਿਆਲਾ।

ਸੀ.ਸੀ.

The following may download the circular from PSPCL website (www.pspcl.in).

1. ਪੀ.ਐਸ.ਟੂ ਚੇਅਰਮੈਨ-ਕਮ-ਮੈਨੇਜਿੰਗ ਡਾਇਰੈਕਟਰ, ਪੰਜਾਬ ਰਾਜ ਪਾਵਰ ਕਾਰਪੋਰੇਸ਼ਨ ਲਿਮ, ਪਟਿਆਲਾ।
2. ਸਾਰੇ ਨਿਰਦੇਸ਼ਕ, ਪੰਜਾਬ ਰਾਜ ਪਾਵਰ ਕਾਰਪੋਰੇਸ਼ਨ ਲਿਮ, ਪਟਿਆਲਾ।
3. ਮੁੱਖ ਇੰਜ: / ਚੇਅਰਮੈਨ (ਫੋਰਮ), ਪੀ.-1, ਵਾਈਟ ਹਾਊਸ, ਰਾਜਪੁਰਾ ਕਲੋਨੀ, ਪਟਿਆਲਾ।
4. ਮੁੱਖ ਪ੍ਰਬੰਧਕੀ ਅਤੇ ਆਈ.ਆਰ., ਪੀ.ਐਸ.ਪੀ.ਸੀ.ਐਲ., ਪਟਿਆਲਾ।
5. ਮੁੱਖ ਬਿਜਲੀ ਇੰਸਪੈਕਟਰ, ਪੰਜਾਬ ਸਰਕਾਰ, ਪਟਿਆਲਾ।
6. ਮੁੱਖ ਆਡੀਟਰ, ਪੀ.ਐਸ.ਪੀ.ਸੀ.ਐਲ., ਪਟਿਆਲਾ।
7. ਮੁੱਖ ਇੰਜੀਨੀਅਰ/ਏ.ਆਰ.ਆਰ. ਤੇ ਟੀ.ਆਰ., ਪੀ.ਐਸ.ਪੀ.ਸੀ.ਐਲ., ਪਟਿਆਲਾ।
8. ਮੁੱਖ ਇੰਜ: /ਆਈ.ਟੀ., ਪੀ.ਐਸ.ਪੀ.ਸੀ.ਐਲ., ਪਟਿਆਲਾ।
9. ਮੁੱਖ ਇੰਜ: /ਥਰਮਲ ਡਿਜ਼ਾਈਨ, ਪੀ.ਐਸ.ਪੀ.ਸੀ.ਐਲ., ਪਟਿਆਲਾ।
10. ਉਪ ਮੁੱਖ ਇੰਜ/ਆਈ. ਪੀ. ਸੀ., ਪੀ.ਐਸ.ਪੀ.ਸੀ.ਐਲ., ਪਟਿਆਲਾ।
11. ਉਪ ਮੁੱਖ ਇੰਜ/ਬਿਲਿੰਗ, ਪੀ.ਐਸ.ਪੀ.ਸੀ.ਐਲ., ਪਟਿਆਲਾ।
12. ਉਪ ਮੁੱਖ ਇੰਜ/ਰੇਗੁਲੇਸ਼ਨ, ਉਪ ਮੁੱਖ ਇੰਜ/ਸ਼ੇਲਜ-2, ਪੀ.ਐਸ.ਪੀ.ਸੀ.ਐਲ.।
13. ਸਾਰੇ ਨਿਗਰਾਨ ਇੰਜੀਨੀਅਰ (ਵੰਡ), ਪੀ.ਐਸ.ਪੀ.ਸੀ.ਐਲ.।
14. ਸਾਰੇ ਵਧੀਕ ਨਿਗ: ਇੰਜ: / ਸੀ.ਕਾ.ਕਾ.ਇੰਜ./ਏ.ਈ.ਈ. ਅਧੀਨ ਵਣਜ ਸੰਸਥਾ।



Punjab Government Gazette

EXTRAORDINARY

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CHANDIGARH, WEDNESDAY, AUGUST 18, 2021 (SRAVANA 27, 1943 SAKA)

PUNJAB STATE ELECTRICITY REGULATORY COMMISSION

NOTIFICATION

The 18th August, 2021

No.PSERC/Secy./Regu.158.- In exercise of powers conferred under Section 181 read with Section 61, 86(1)(e) of the Electricity Act, 2003 (36 of 2003) and all other powers enabling it in this behalf, the Punjab State Electricity Regulatory Commission hereby makes the following regulations namely:

1 Short title & commencement

- 1.1 These Regulations may be called the Punjab State Electricity Regulatory Commission (Grid Interactive Rooftop Solar Photo Voltaic Systems) Regulations, 2021
- 1.2 These Regulations shall extend to the whole of the State of Punjab.
- 1.3 These Regulations shall come into force from the date of publication of the same in the official Gazette.

2. Definitions & Interpretation

In these Regulations, unless the context otherwise requires:-

- (a) "Act" means the Electricity Act 2003 (36 of 2003), as amended from time to time;
- (b) "Agreement" means an agreement signed by the distribution licensee with the eligible consumer;
- (c) "Billing Cycle" or "Billing Period" means the period for which regular electricity bills, as specified by the Commission, are issued by the distribution licensee to different categories of consumers;
- (d) "Commission" means the Punjab State Electricity Regulatory Commission;
- (e) "Consumer" means any person who is supplied with electricity for his own use by a licensee or the Government or by any other person engaged in the business of supplying electricity to the public under the Act or any other law for the time being in force and includes any person whose premises are for the time being connected for the purpose of receiving electricity with the works of distribution licensee, the Government or such other person, as the case may be;

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- (f) “Contract Demand” means the maximum demand in kVA (kilo Volt Ampere) sanctioned to the consumer and computed in the manner as approved by the Commission;
- (g) “Days” means clear working days;
- (h) “Distribution Licensee” means a licensee authorized to operate and maintain a distribution system for supplying electricity to the consumers in his area of supply;
- (i) “Eligible Consumer” means a consumer of electricity in the area of supply of distribution licensee, who uses or intends to use a rooftop SPV system installed in his premises to offset part or all or no part of the own electrical requirements, given that such systems can be ‘self owned’ or ‘third party owned’;
- (j) “Financial Year” or “Year” means period beginning from first day of April and ending with thirty first day of March of next year in English Calendar Year;
- (k) “Generation Meter” means a unidirectional energy meter to measure the electricity generated by Solar Photo Voltaic (SPV) system, for the purpose of accounting and settlement;
- (l) “GoP” means Government of Punjab in the Department of New and Renewable Energy;
- (m) "Gross-metering" means a mechanism whereby the total solar energy generated from Grid Interactive Rooftop Solar Photovoltaic system of a Prosumer and the total energy consumed by the Prosumer are accounted separately through appropriate metering arrangements and for the billing purpose, the total energy consumed by the Prosumer is accounted at the applicable retail tariff and total solar power generated is accounted for at feed-in tariff approved by the Commission;
- (n) “Interconnection Point” means the interface of rooftop solar power generation facility with the outgoing terminal of the meter/distribution licensee’s 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 rooftop SPV system with the outgoing terminals of the distribution licensee’s metering cubicle placed before such consumer’s apparatus;

- (o) “Invoice” means the monthly bill or a supplementary bill or a monthly invoice or a supplementary invoice raised by the distribution licensee to the consumer;
- (p) “kWp” means kilo Watt peak;
- (q) "Net-billing or net feed-in" means a single bidirectional energy meter used for net-billing or net feed-in at the point of supply wherein the energy imported from the Grid and energy exported from Grid Interactive rooftop Solar photovoltaic system of a Prosumer are valued at two different tariffs, where-
- (i) the monetary value of the imported energy is based on the applicable retail tariff;
- (ii) the monetary value of the exported solar energy is based on feed-in tariff determined by the Commission;
- (iii) the monetary value of the exported energy is deducted from the monetary value of the imported energy to arrive at the net amount to be billed (or credited / carried-over);
- (r) “Net Meter” means a bidirectional energy meter capable of recording both import and export of electricity;

- (s) "Net-metering" means a mechanism whereby solar energy exported to the Grid from Grid Interactive rooftop Solar Photovoltaic system of a Prosumer is deducted from energy imported from the Grid in units (kWh) to arrive at the net imported or exported energy and the net energy import or export is billed or credited or carried-over by the distribution licensee on the basis of the applicable retail tariff by using a single bidirectional energy meter for net-metering at the point of supply;
- (t) "Obligated Entity" means the entity mandated by the Commission under clause (e) of sub section (1) of section 86 of the Act to fulfill the renewable purchase obligation and identified under PSERC (Renewable Purchase Obligation & its compliance) Regulations, 2011, as amended from time to time;
- (u) "Premises" means roof tops or/and any area on the land, building or infrastructure or part or combination thereof in respect of which a separate meter or metering arrangement have been made by the distribution licensee for the supply of electricity;
- (v) "Prosumer" is a person who consumes electricity from the grid and can also inject electricity into the grid for the distribution licensee using the same point of supply;
- (w) "Renewable Energy Certificate" (REC) means the certificate issued in accordance with the procedures prescribed in Central Electricity Regulatory Commission (Terms and Conditions for recognition & issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 as amended from time to time;
- (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) "Rooftop Solar System" means the Solar Photo Voltaic system installed in the premises of the consumer that uses solar energy for direct conversion into electricity through photo voltaic technology;
- (z) "Sanctioned Load" means the load in kW (kilowatt), or BHP (Break Horse Power), agreed to be supplied by the licensee and indicated in the A&A Form executed between the distribution licensee and the consumer;
- (za) "Settlement Period" means the period beginning from first day of October in an English calendar year and ending with thirtieth day of September of next year;
- (zb) "Supply Code" means the PSERC (Electricity Supply Code & Related Matters) Regulations, 2014, as amended from time to time;
- (zc) "Tariff Order" in respect of a licensee means the Order issued by the Commission for the relevant year for that licensee indicating the rates to be charged by the licensee from various categories of consumers for supply of electrical energy and for other services;
- (zd) All other words and expressions used in the Regulation although not specifically defined herein above, but defined in the Act (Electricity Act, 2003) shall have the meaning assigned to them in the Act;
- (ze) All other words and expressions used herein but not specifically defined in these regulations and the Act but defined in any other law passed by the Parliament/State Assembly or regulations framed under the Act, shall have the meaning assigned to them in such law/regulations.

3. Scope and Application

3.1 These Regulations shall apply to:

- (a) Net Metering arrangements;
- (b) Net Billing arrangements;
- (c) Gross Metering arrangements.

Provided that the eligible consumer can opt for only one arrangement i.e either net metering or net-billing or gross metering, as specified in these Regulations.

3.2 These Regulations do not preclude the right of any person to undertake renewable energy projects through alternative mechanism.

3.3 These Regulations shall be applicable to all Rooftop Solar Photo Voltaic Systems for which applications are received on or after notification of these regulations except Regulation 19 which shall also be applicable to Rooftop Solar Photo Voltaic Systems commissioned under the PSERC (Grid Interactive Rooftop Solar Photo Voltaic Systems based on Net Metering) Regulations, 2015.

Provided that these Regulations shall also be applicable for applications received on or after notification of these Regulations for enhancing the capacity of the already installed Rooftop SPV systems by an existing consumer.

4. Eligible consumer and individual project capacity.

4.1 All eligible consumers in the area of the supply of the distribution licensee can participate in the Rooftop SPV system under net metering or net billing or gross metering arrangements on a non-discriminatory and distribution transformer-wise or feeder-wise 'first come, first serve' basis subject to the provisions as specified in these Regulations and shall be called prosumer.

4.2 The maximum capacity of Rooftop SPV system (rated inverter capacity on AC side) to be installed at any eligible consumer's premises except domestic category consumers, shall not exceed 70 % of the sanctioned load (kW) or contract demand of the consumer (in kVA converted to kW by using a power factor of 0.9). In case of domestic consumers, the maximum capacity of Rooftop SPV systems shall not exceed the sanctioned load (kW) or contract demand of the consumer (in kVA converted to kW by using a power factor of 0.9);

4.3 The maximum capacity of Rooftop SPV systems under Net-Metering shall not exceed 500 kWp.

4.4 The maximum capacity of Rooftop SPV systems under Net-Billing or Gross Metering shall be subject to the sanctioned load/contract demand as specified in Regulation 4.2.

4.5 The maximum Rooftop SPV system capacity to be installed at an Eligible Consumer's premises shall be subject to the cumulative capacity of the relevant Distribution Transformer/feeder, which has already been utilized, as specified in Regulation 5.1;

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

4.6 The minimum capacity of Rooftop SPV system under net metering or net billing arrangements shall be 1 kWp for a single eligible consumer. Under gross metering arrangements, the minimum capacity shall be 50 kWp for a single eligible consumer.

5. Capacity Limit for Distribution Licensee

- 5.1 The distribution licensee shall allow Rooftop SPV systems to the eligible consumer as long as the total capacity (in MW) of rooftop solar systems does not exceed the target capacity determined by the Commission;

Provided that initially, a maximum cumulative capacity to be installed by eligible consumer in the area of supply of each distribution licensee shall be as decided by the Commission. Thereafter, the target capacity shall be reviewed on yearly basis by the Commission;

Provided further the cumulative capacity of all Rooftop Solar System under these Regulations allowed to be interconnected with the distribution network (distribution transformer/feeder owned by the distribution licensee) shall not exceed 80% of the rated capacity of the distribution transformer/feeder, as applicable.

- 5.2 The distribution licensee shall provide information regarding distribution transformer level capacity available for connecting rooftop solar system under these Regulations within two months from the date of notification of these Regulations. The distribution licensee thereafter shall update the distribution transformer level capacity available and the cumulative capacity of the rooftop solar systems installed under net metering and/or net billing arrangements on yearly basis by 30th April and shall provide the information on its website as well as to the Commission.

6. Interconnection with the Grid, Standards & Safety

- 6.1 The voltage level for interconnection with the grid shall be the voltage level at which the consumer has been given supply by the distribution licensee in accordance with the provisions of Supply Code, 2014, as amended from time to time.

- 6.2 The interconnection of the rooftop solar system with the network of the distribution licensee shall conform to the standards as provided in CEA (Technical Standards for Connectivity to the Grid) Regulations, 2007, as amended from time to time and CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013, as amended from time to time, as applicable.

- 6.3 The interconnection of the rooftop solar system with the distribution system of the licensee shall conform to the relevant provisions of the Central Electricity Authority (Measures relating to Safety and Electric Supply), Regulations, 2010, as amended from time to time.

- 6.4 The grid interactive rooftop solar system may be installed with or without battery backup:

Provided that where the rooftop solar system is installed with battery backup (full load backup/partial load backup), 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.

- 6.5 The consumer shall be responsible for safe operation, maintenance and rectification of any defect of the rooftop solar system upto 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 licensee.

- 6.6 The rooftop solar 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 the grid. Applicable IEC/IEEE technical standards shall be followed to test islanding prevention measure for grid connected inverters.

6.7 The licensee shall have the right to disconnect the rooftop solar system at any time to prevent any possible accident or damage to equipment, from such rooftop solar system to its distribution system, without any notice. The distribution licensee may call upon the prosumer to rectify the defect within a reasonable time.

6.8 Every Rooftop SPV systems shall be equipped with an automatic synchronization device.

Provided that the Rooftop SPV systems shall not be required to have separate synchronizing device if it is inherently built into the inverter.

6.9 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) and other distortions shall be within the limits specified in the IEEE technical standards/BIS/Supply Code, 2014 and/or as specified by the Authority. All equipments to be installed under these regulations should conform to the applicable BIS/IEEE standards.

7. Metering

7.1 All the meters installed at the Rooftop SPV system shall comply with the CEA (Installation and Operation of Meters) Regulations, 2006, as amended from time to time.

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

7.3 The generation meter (a unidirectional meter) is required to be installed as an integral part of the Rooftop SPV system at the point at which the electricity is generated by SPV System and delivered to the main panel.

7.4 The net metering equipment (Bi-directional meter) and the generation meter (unidirectional) as per CEA Metering Regulations shall be installed and maintained by the distribution licensee at the cost of the eligible consumer:

Provided the eligible consumer may procure the net meter/generation meter and present the same to the distribution licensee for testing and installation as per Regulation 21.2 of the Supply Code. In case meters are provided by the distribution licensee, the consumer shall pay the entire cost of the meters. No meter rental shall be charged from the consumer. The location of the meter shall be as per CEA Metering Regulation.

7.5 In case of Rooftop SPV system is set up under gross metering, an additional check meter for generation meter of appropriate class shall be installed by the distribution licensee.

7.6 The distribution licensee shall undertake meter testing before installation to ensure accuracy of the meters.

7.7 The installed meters shall be jointly inspected and thereafter sealed by the distribution licensee in the presence of the consumer.

7.8 If the eligible consumer is under the ambit of Time of the Day (TOD) Tariff, both the generation and net meter shall be capable of recording time of day consumption/generation.

7.9 The meter reading taken by the distribution licensee shall form the basis of commercial settlement.

8. Net metering arrangement

a) The consumers shall be eligible to opt for Net Metering arrangement as specified in Regulation 4.

- b) The consumer may set up Rooftop SPV system to offset the consumer's electricity consumption from the distribution licensee.
- c) The Rooftop SPV system installed at the prosumer's premises delivers excess electricity, if any, to the distribution licensee after offsetting the electricity supplied by the distribution licensee during the applicable billing period.
- d) The energy accounting and settlement under this arrangement shall be in accordance with Regulation 12.

9. Net billing arrangement

The solar energy generated by the SPV systems is consumed by the consumer with the surplus, if any, being exported as in case of net-metering arrangements. However under net billing arrangements, the monetary value of the imported energy from the grid is based on the applicable retail tariff. The monetary value of the exported solar energy to the grid is based on feed-in tariff approved by the Commission. The monetary value of the exported energy is deducted from the monetary value of the imported energy to arrive at the net amount to be billed (or credited/carried-over). With the net billing mechanism only a single bi-directional energy meter is needed as is done for net-metering. The consumers may opt for Net Billing arrangement as specified in Regulation 4. The energy accounting and settlement under this arrangement shall be in accordance with Regulation 13.

10. Gross Metering Arrangement

In case of gross metering, the consumer does not consume the solar power generated in his premise and entire solar generation is fed in to the grid which is billed at the rate of feed-in-tariff approved by the Commission. The total energy imported by the consumer from the grid is billed at retail tariff determined by the Commission. Two separate meters i.e generation meter and the consumer meter shall be used for gross metering at the point of supply.

The consumers may opt for Gross Metering arrangement as specified in Regulation 4 and shall further be restricted to the capacity and network configuration of the electricity system, and the power flows that SPV system may cause. The energy accounting and settlement under this arrangement shall be in accordance with Regulation 14.

11. Procedures for application and registration

- 11.1 The distribution licensee shall implement a web-based application processing system for processing the applications for Rooftop SPV systems.
- 11.2 The distribution licensee shall facilitate the process for setting up of Rooftop SPV system at consumers' premises. In this regard, the licensee shall prominently display on its website and in all its offices, the following:
 - i) detailed standardized procedure for installation & commissioning of roof top solar system.
 - ii) a single point of contact to facilitate the eligible consumers in installation of Rooftop solar system from submission of application form to commissioning.
 - iii) complete list of documents required to be furnished along with such applications:
 - iv) applicable charges to be deposited by the applicant.
 - v) Empanelled list of service providers for the benefit of consumers who want to install roof top solar PV system through service providers.

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- vi) financial incentives to the prosumers, as applicable under various schemes and programmes of the Central and State Government.
- vii) Standard Connection Agreement(s)
- 11.3 A consumer intending to set up the Rooftop SPV system shall submit the application online along with processing fee of Rs. 50/kW or part thereof of SPV Capacity subject to minimum of Rs. 500/- and maximum of Rs.10000/ to designated officer of the distribution licensee for grant of permission to set-up the plant. The acknowledgement with the registration number shall be generated on submission of application;
- 11.4 The application shall be deemed to be received on the date of generation of acknowledgement with registration number and the application tracking mechanism based on the unique registration number shall be provided by the distribution licensee to monitor the status of processing of the application like receipt of application, site inspection, meter installation and commissioning, etc.
- 11.5 The distribution licensee shall complete technical feasibility study within 20 days of the date of acknowledgement issued to the applicant.
- 11.6 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 registered email/SMS/post within 22 days from the issuance of acknowledgement of the application.
- 11.7 In case of any deficiencies found in the application or during technical feasibility study, the same shall be intimated by the distribution licensee to the applicant through registered email/SMS notification within 20 days from the date of issuance of acknowledgement of the application failing which it shall be deemed to have been found in order by the distribution licensee.
- 11.8 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.
- 11.9 In case, there is any requirement of upgradation of distribution infrastructure like augmentation of service line, distribution transformer capacity, etc., for installation of the required capacity of solar PV system, the same shall be carried out by the distribution licensee within a period of 180 days failing which the application of the consumer for setting up SPV plant shall be deemed to have been approved.
- 11.10 In case it is not technical feasible to permit installation of SPV system on account of target capacity limit and/or distribution infrastructure specified under these Regulations, it shall be intimated to the applicant within 22 days from the issuance of the acknowledgement of the application.
- Provided that in such case, 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.
- 11.11 The consumer shall set up the plant and submit the installation certificate alongwith Single Line Diagram of the synchronizing and protection arrangement issued by the plant supplier/EPC contractor

as per standards and specifications approved by the competent authority within 180 days of receiving the LoA.

- 11.12 In case of delay, the consumer shall submit an application to the distribution licensee along with extension fee of Rs. 25/kW of SPV capacity subject to minimum of Rs. 250/- and maximum of Rs. 5,000/- atleast 15 days prior to lapse of 180 days period. Such extension will be granted by the distribution licensee within 15 days of the receipt of the request for a maximum period of 2 months only failing which it shall be deemed to have been approved. The approval granted will lapse automatically if the project is not set-up even in the extended 2 months period. In case the consumer fails to install the system within 180 days or get the period extended then the application shall stand cancelled and the prosumer shall need to re-apply. However, the consumer will be eligible to apply afresh in the next financial year but his application will be kept at the bottom of the list of applicants. Such consumer will be permitted to set-up the plant only if after allotting the capacity to all successful applicants above him in the next financial year, there is still capacity available for allotment.
- 11.13 After submission of the installation certificate and site verification, distributing licensee shall complete signing of connection agreement for a period of upto 25 years, installation and sealing of the Bi-directional energy meter/unidirectional generation meter and successful commissioning of the SPV system within 30 days of the submission of installation report.

COMMERCIAL ARRANGEMENTS

12 Net Metering - Energy Accounting and Settlement

- 12.1 The Distribution Licensee shall record the meter reading of both the Generation Meter and the Net Meter, for all Eligible Consumers, as per the regular billing cycle.
- 12.2 For each Billing Cycle, the Distribution Licensee shall make the following information available on its bill to the Eligible Consumer:
- a) Quantum of Solar Energy generation recorded in the Generation Meter in the billing period;
 - b) Quantum of electricity units imported by the consumer from the distribution licensee's supply system in the billing cycle, including opening and closing balance;
 - c) Quantum of Solar Energy exported by the consumer to the grid in the billing cycle, including opening and closing balance;
 - d) Quantum of net billed electricity units, for which a payment is to be made by the Consumer;
 - e) Solar generation units used by the Distribution Licensee for RPO compliance.
 - f) Excess electricity carried forward from the last billing cycle;
 - g) Excess electricity carried forward to the next billing cycle;
 - h) Installed capacity of Rooftop SPV Plant.
- 12.3 The energy generated by the Rooftop SPV system shall be offset against the energy consumption of the prosumer from the Distribution Licensee in the following manner:
- a) In case the electricity injected by the Rooftop SPV system exceeds the electricity consumed from the licensee's supply system 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;
 - b) In case the electricity supplied by the distribution licensee during any billing period exceeds the

electricity injected in the grid by the prosumer, the distribution licensee shall raise a bill for the net electricity consumption as per applicable tariff of that category after taking into account any excess electricity carried forward from the previous billing period;

- c) 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:
- i. 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.
 - ii. 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.
 - iii. This process will continue till all consumption in lower tariff blocks is set off against prosumer generation.
 - iv. Any excess generation after setting off consumption in lower tariff time blocks would be carried forward to the next billing cycle.
 - v. Same process would be used to set off consumption in the subsequent billing cycle.
- d) The electricity generated from a rooftop solar system shall not exceed 90% of the electricity consumption by the consumer in a settlement period:

Provided that in the event of electricity generated exceeds 90% of the electricity consumed at the end of the settlement period no payment shall be made by the distribution licensee and shall not be carried forward to next settlement period and the same shall be treated as inadvertent injection:

Provided further that at the beginning of each settlement period, cumulative carried over solar electricity injected shall be reset to zero.

- e) 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;
- f) 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.
- g) Regardless of availability of excess electricity with the prosumer during any billing period, the prosumer will continue to pay all other charges such as fixed/demand charges, Government levy, etc.
- h) 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.

13 Net Billing or net feed-in arrangement-Energy Accounting and Settlement

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

- a) Quantum of Solar generation recorded in the Generation Meter, in the billing period;
- b) Quantum of electricity units imported from the licensee's supply system by the Consumer in the billing period, including opening and closing balance;

- c) Quantum of Solar Energy exported to the grid by the consumer in the billing cycle, including opening and closing balance;
- d) Billing Credit carried forward from the last billing period;
- e) Billing Credit carried forward to next billing period;
- f) Solar generation units used by the Distribution Licensee for RPO compliance;
- g) Installed capacity of Rooftop SPV Plant.

13.2 The Distribution Licensee shall raise bill on the prosumer in accordance with the following equation:
 Energy Bill of consumer = Fixed Charges + other applicable charges and levies + (EDL x TRST)-
 ERE x TRE) – Billing Credit (carried forward from last billing cycle);

Where:

- a) Fixed Charges means the Fixed/Demand Charges as applicable to the consumer category as per the applicable retail supply Tariff Order;
- b) Other charges and levies mean any other charges such as electricity duty, municipal tax, cess, etc.;
- c) EDL means the energy imported from the Distribution Licensee's supply system by the Consumer for the billing cycle;
- d) TRST means the applicable Retail Supply Tariff of the concerned consumer category as per the applicable retail supply tariff order of the Commission;
- e) ERE means the energy units exported to the grid by the consumer for the billing period;
- f) TRE means the feed-in-tariff approved by the Commission;
- g) Billing Credit is the amount by which the value of solar generation in a particular billing cycle is more than the value of all other components of consumer bill.

13.3 In case the consumer is subjected to time of day tariffs, energy bill (EDL x TRST) shall be computed accordingly.

13.4 In case (ERE x TRE) is more than {Fixed charges + other applicable charges and levies + (EDL x TRST)}, utility shall give credit of amount equal to difference (Billing Credit), which shall be carried forward to the next billing cycle.

13.5 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.

14 Gross Metering arrangement- Energy Accounting and Settlement

The energy consumed by the consumer during the billing cycle shall be billed at the retail tariff applicable for the relevant category as determined by the Commission in the tariff order whereas energy generated during the billing cycle shall be billed at feed-in-tariff approved by the Commission. A single invoice may be raised by the distribution licensee.

15 Energy Accounting during meter defect/failure/burnt

- 15.1 In case of defective/failure/burnt condition of any meter, the prosumer shall report the failure to the Distribution Licensee
- 15.2 Distribution Licensee shall replace the meter as specified in the Supply Code, 2014.
- 15.3 The electricity generated by the Rooftop SPV system during the period in which the meter is defective shall be determined based on the readings of the Check Meter:

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

- 15.4 The consumption of the Consumer during the period in which the Consumer meter or Net Meter is defective shall be determined as specified in the Supply Code, 2014.

16. Applicability of other charges

The SPV system installed under these Regulations shall be exempted from all wheeling, cross subsidy, transmission and distribution and banking charges and surcharges.

17. Eligibility to Participate under Renewable Energy Certificate (REC) Mechanism

The eligibility for 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, as amended from time to time.

18. Renewable Purchase Obligation

The quantum of Solar generation, as recorded by the Generation Meter, by eligible consumer, who is not defined as obligated entity, from the rooftop solar system shall qualify towards compliance of Renewable Purchase Obligation (RPO) for the distribution licensee.

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

19. Penalty or Compensation

- 19.1 In case of failure to meet timelines prescribed under these Regulations, the distribution licensee shall take approval from the Commission in specific cases along with justification for the same. In case of any delay on the part of distribution licensee without any just cause, the Licensee shall be liable to pay compensation to the consumer @ Rs. 500 per day for each day of delay for SPV systems not exceeding 10 kWp. For SPV systems exceeding 10 kWp, the compensation shall be Rs. 50 per kWp for each day of delay subject to maximum of Rs. 2000 for each day of delay.
- 19.2 In case the installed capacity of the SPV plant in the premises of the prosumer is found to more than the sanctioned capacity, the energy injected in to the grid by such prosumer for the last 6 billing cycles or date of installation, whichever is later, shall be treated as inadvertent injection and no payment shall be payable to the prosumer for such injection by the distribution licensee. A 15 days notice shall be served to the prosumer to disconnect the excess capacity failing which the agreement may be terminated by the distribution licensee. The consumer may apply afresh in the next financial year but his application will be kept at the bottom of the list of applicants. Such consumer will be permitted to set-up the plant only if after allotting the capacity to all successful applicants above him in the next financial year, there is still capacity available for allotment.
- 19.3 In case any SPV plant is found to be running in parallel with the supply system of the distribution licensee without approval then supply of such consumer may be disconnected without notice and the supply shall be restored only after the plant is isolated from the supply system of the licensee. Such consumer may apply for SPV plant in the next financial year but his application will be kept at the bottom of the list of applicants. Such consumer will be permitted to set-up the plant only if after allotting the capacity to all successful applicants above him, there is still capacity available for allotment.

20. Dispute Resolution Mechanism

In case of any monetary and/or non-monetary dispute with the Distribution Licensee, the prosumer shall have recourse, to the mechanism specified in PSERC (Forum and Ombudsman) Regulations, 2016, as amended from time to time

21. Termination of agreement

21.1 The eligible consumer may terminate the agreement at any time by giving 30 days prior written notice to the licensee.

21.2 If an eligible consumer breaches any term of the agreement and does not remedy the breach within 30 days of receipt of written notice from the distribution licensee of the breach or any other valid reason to be recorded in writing, the distribution licensee may terminate the agreement through a speaking order without any further notice.

21.3 Eligible consumer, upon termination of the agreement, shall disconnect forthwith the photovoltaic system from licensee's distribution system.

22. Power to issue Practice directions

Subject to the provisions of the Act, the Commission may from time to time issue such directions and orders as considered appropriate for implementation of these Regulations.

23. Removal of difficulties

If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by an order, make such provision, not being inconsistent with the Act and these Regulations, which appears to the Commission to be necessary for removal of the difficulties.

24. 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 of its own or on an application made before it by an interested person.

25. Power to amend

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

26. Repeal and savings

Save as otherwise provided in these Regulations, the PSERC (Grid Interactive Rooftop Solar Photo Voltaic Systems based on Net Metering) Regulations, 2015, as amended from time to time, are hereby repealed.

Provided that save as otherwise provided in these Regulations, the Rooftop SPV systems registered under PSERC (Grid Interactive Rooftop Solar Photo Voltaic Systems based on Net Metering) Regulations, 2015 shall continue to be governed by the aforesaid Regulations and shall not be governed by these Regulations.

Order of the Commission

Sd/-

Secretary to the Commission