

HARYANA ELECTRICITY REGULATORY COMMISSION

Bays No. 33-36, Sector-4, Panchkula-134112, Haryana
Tel. No. 0172-2572395 (O), Fax No. 0172-2572359

www.herc.nic.in

Discussion paper for finalization of the Haryana Electricity Regulatory Commission (Rooftop Solar Grid Interactive Systems Based on Net Metering) Regulations, 2018.

Statement of Objects and Reasons:

The Ministry of New and Renewable Energy, Government of India has proposed target for promotion of Renewable Energy, namely to add 1,00,000 MW of Solar Power by the year 2022 out of which 40,000 MW is under the Rooftop Solar Plants which turns into a target of 1600 MW Rooftop Solar Power Plant for Haryana by the year 2021-22 and has accordingly proposed the Renewable Purchase Obligation (through procurement of solar power) target by the obligated entities to 8% as per New Tariff policy 2016. This is in variance with current level of the Renewable Purchase Obligation prescribed under the Renewable Regulations, 2010 up to the year 2021 – 22 notified by the Hon'ble Commission for all Renewable powers including Solar at 3% as per Hon'ble commission notification dated 15.07.2014.

The HERC in exercise of the powers under Section 181 of the Electricity Act, 2003 has notified Haryana Electricity Regulatory Commission (Rooftop Solar Grid Interactive System Based on Net Metering) Regulations 2014, subsequently the first amendment to the said Regulations was notified by the Commission on 9th June, 2015.

Further, HAREDA vide petition no. PRO No. 37 of 2017 sought certain amendments in the Haryana Electricity Regulatory Commission (Rooftop Solar Grid Interactive System Based on Net Metering) Regulations 2014 to provide certain enabling provisions to promote rooftop solar generation to harness the solar energy as the target as set out by the GoI could not be achieved without net metering facility. HAREDA also made a detailed presentation in this regard before the Commission on 29.06.2017 wherein the following issues has been raised by the HAREDA and sought amendments in the HERC NET Metering Regulations 2014:-

- 1) Clause no. 3.4 of the Regulations may be amended to the extent that under net metering facility, the consumer may be allowed to sell the excess power to the Utilities. Further the first para of clause no. 3.4 may be deleted as the same is not required in view of the fact that the net metering is to be provided based on consumer connection.

- 2) The cumulative capacity of the Rooftop Solar System at a particular distribution transformer should be allowed upto 100% of its particular distribution transformer capacity in line with the Govt. of India instruction / recommendation dated 13.01.2017, also if the consumer have sufficient space to install the capacity more than the sanctioned load, they may be allowed to set up solar power projects of capacity in the premises more than the sanctioned load. They should be allowed facility of selling excess power to the utilities through feed in tariff with net metering facility.
- 3) Clause No. 3.5
The open access consumers if intends to have rooftop solar power plants in their premises may be allowed the net metering facility.
- 4) It has been further requested that the Banking facility may be allowed for Grid Connected Rooftop Solar Power Plants and the carry forward of excess energy generation should be allowed from one billing cycle to the next billing cycle and also to the next financial year. There should be no restriction on carry forwarding the energy generated from the rooftop solar power plant.
- 5) The Petitioner has proposed that the wheeling & cross subsidy charges should be exempted for rooftop solar systems installed on eligible consumer premises under Net metering, both self/third party owned.

In view of above and further to achieve the target proposed by Govt. of India for promotion of solar power generation, the Haryana Electricity Regulatory Commission, in exercise of powers conferred on it by Section 61, Section 86 and 181 of the Electricity Act, 2003 and all other powers enabling it in this behalf, decided to frame afresh Haryana Electricity Regulatory Commission Net Metering Regulations. Accordingly, the Commission drafted the proposed Net Metering Regulations, 2018 with the assistance of IDAM under USAID / INDIA (Pace –D Technical Assistance Programme) as under for seeking the comments of various stakeholders i.e. Haryana Power Utilities, Stakeholders/ Organizations/ General Public:

Notification

The.....2018

Regulation No. HERC/xx/2018 — In exercise of the powers conferred by Sections 61, 86(1)(e) and 181 of the Electricity Act, 2003 (Act 36 of 2003) and all other powers enabling it in this behalf, the Haryana Electricity Regulatory Commission hereby makes the following Regulations for Grid Connected Rooftop Photovoltaic System.

Chapter — I

General

1. Short Title, Extent, and Commencement

- 1.1. These Regulations shall be called 'The Haryana Electricity Regulatory Commission (Rooftop Solar Grid Interactive Systems Based on Net Metering) Regulations, 2018'.
- 1.2. These Regulations shall come into force from the date of publication in the Official Gazette of Haryana.
- 1.3. These Regulations shall extend to the whole of the State of Haryana.

2. Definitions and Interpretations

2.1. In these Regulations, unless the context otherwise requires,

- a) **“Act”** means the Electricity Act, 2003 (36 of 2003) and subsequent amendments thereof;
- b) **“Agreement”** means the agreement entered into for connecting rooftop solar PV system to the distribution system;
- c) **“billing cycle or billing period”** means the period for which regular electricity bills as specified by the Commission, are prepared for different categories of consumers by the distribution licensee;
- d) **“Commission” or “HERC”** means the Haryana Electricity Regulatory Commission constituted under the Act;
- e) **“commissioning” or “date of commissioning”** means the date of synchronisation of the rooftop solar system with the grid of the distribution licensee, which shall also be certified by the appropriate officer of the distribution licensee;
- f) **“consumer”** means any person who is supplied with electricity for his own use by a

- distribution 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 a distribution licensee, the Government or such other person, as the case may be;
- g) **“connected load”** expressed in kilowatt (kW), means aggregate of the manufacturer’s rated capacities or in its absence assessed capacities of all energy consuming devices or apparatus connected with the distribution licensee’s service line on the consumer’s premises;
 - h) **“contract demand”** means the maximum demand in kW or kilovolt ampere (kVA) (within a consumer’s sanctioned load) agreed to be supplied by the licensee and indicated in the agreement executed between the licensee and the consumer; in case contract demand is not mentioned in the contract or if there is no contract, the sanctioned load or connected load as mentioned shall be considered;
 - i) **“distribution licensee”** means a person granted a license under Section 14 of the Act authorising him to operate and maintain a distribution system for supplying electricity to the consumers in his area of supply;
 - j) **“Electricity Supply Code”** means the Electricity Supply Code specified by the Commission under Section 50 of the Act and subsequent amendments/ re-enactments thereof;
 - k) **“eligible consumer”** means a consumer of electricity in the area of supply of the distribution licensee, who intends to install or has installed on a rooftop or otherwise, in its premises, to meet all or part of his own electricity requirement under net metering and includes a consumer catering to a common load such as a Housing Society;
 - l) **“entity”** means an ‘eligible consumer’ and/or a ‘person’ as defined under these Regulations and shall be used under these Regulations, where the reference is to be made for ‘eligible consumer’ and ‘person’ both jointly;
 - m) **“interconnection point”** for rooftop solar systems under net metering, shall mean the interface of solar power generation facility with the network of licensee i.e., at metering point. This can be within the consumer premises or outside at the nearest suitable point based on the voltage level at which the system can be connected as per the HERC (Electric Supply Code) Regulations, 2014, and amendments;

Provided that the consumer may connect rooftop solar system at any convenient

point in the load circuit;

- n) **“net meter” or “bi-directional meter”** means an appropriate energy meter which is capable of recording both import and export of electricity;
- o) **“net metering”** means an arrangement of energy metering under which rooftop solar system installed at an eligible consumer’s premises delivers solar power simultaneously with the power supplied by the distribution licensee to the consumer’s premises and the net surplus power, if any, to the distribution licensee after off-setting the power supplied by the distribution licensee during the applicable billing period;
- p) **“obligated entity”** means the entity mandated under Clause (e) of Subsection (1) of Section 86 of the Act to fulfil the Renewable Purchase Obligation (RPO) and identified under the HERC (Terms and Conditions for Determination of Tariff From Renewable Energy Sources, Renewable Purchase Obligation, and Renewable Energy Certificate) Regulations, 2010 and subsequent amendments/re-enactments thereof;
- q) **“person”** shall include any company or body, corporate or association or body of individuals, whether incorporated or not, or artificial juridical person;
- r) **“premises”** means rooftops or/and any area on the land, building or infrastructure or part or combination thereof in respect of which a separate meter or metering arrangements have been made by the licensee for supply of electricity;
- s) **“rated capacity of rooftop solar system”** means the transformation capacity of the inverter forming part of the rooftop solar system;
- t) **“rooftop solar system” or “rooftop solar grid interactive system”** means the solar photovoltaic power system installed on any part of a premises located within the area of distribution licensee that uses solar energy for its direct conversion into electricity;
- u) **“sanctioned load”** means the approved connected load in kW;
- v) **“settlement period”** means the period beginning from the first of April in a calendar year and ending with the thirty first of March of the next year, i.e., same as ‘financial year’;
- w) **“tariff order”** in respect of a distribution licensee means the most recent order issued by the Commission for that distribution licensee indicating the retail supply

rates to be charged by the distribution licensee from various categories of consumers for supply of electrical energy and services;

- x) **“third party owner”** means a developer who is generating solar energy on a rooftop from rooftop solar system(s) and is neither the owner of the premises nor a consumer of the distribution licensee for the said premises. However, the responsibility of entering into a net metering agreement would rest with the consumer of the premises;
- y) **“useful life”** means a period of 25 years from the date of commissioning of the rooftop solar system;
- z) **“virtual net metering (VNM)”** means an energy crediting metering arrangement by which a distribution licensee allows eligible consumer with inadequate space in its premises to set up a rooftop solar system to generate solar energy. The energy which is generated at one point (premises) by a rooftop solar system, is used at another point (premises). This enable setting up of rooftop solar system externally and the net metering benefits (energy credits) are shared amongst participating consumers. In this case, the consumer receives credit on their electricity bill for any excess energy produced by the rooftop solar system installed at another location;
- aa) **“VNM consumer”** means a premise that is participating under VNM arrangement and sets off its electricity consumption but does not host rooftop solar system. A VNM Generator also qualifies as a VNM consumer;
- bb) **“VNM generator”** means a premise that is participating under VNM arrangement and sets of its electricity consumption, and also hosts the rooftop solar system.

2.2. 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/State Legislation applicable to the electricity industry in the State shall have the meaning assigned to them in such law.

Chapter — II

Scope, Eligibility, and Applicability

3. Scope and Applicability

3.1. These Regulations shall apply to all the distribution licensee(s), consumers of electricity of distribution licensees, and third party owners installing rooftop solar system in the

State of Haryana.

3.2. The eligible consumer may install the rooftop solar system under net metering arrangement which:

- a) shall be within the permissible rated capacity as defined under these Regulations;
- b) shall be located in the premises;
- c) shall interconnect and operate safely in parallel with the distribution licensee's network.

3.3. A rooftop solar grid interactive system installed in a premise(s) may be owned by an eligible consumer of distribution licensee or third party owner, as applicable.

3.4. The rooftop space available in the Government organizations/ institutions/ buildings can also be provided on lease rent to independent power producers/ RESCO developers for setting up of rooftop solar systems.

- a. The Renewable Energy Department, Haryana/ HAREDA, may, from time to time, invite offers from independent power producers for development of grid connected rooftop solar systems, of capacity ranging from 250 kWp to 1 MWp, on a cluster of public private buildings on the last lowest tariff discovered and conveyed by HPPC.

Provided that the Government organizations/ institutions/ buildings, may also set up rooftop solar systems on their own, under net metering.

Provided further that an independent power producer/ RESCO developers can also supply/ provide power for the captive use of the premises under net metering and can sell remaining power to HPPC or any other entity of Haryana Government on the last lowest tariff discovered and conveyed by HPPC or to third party as per applicable HERC Regulations.

3.5. Metered agricultural pumps powered with solar may also opt for getting the benefits of net metering facility under these Regulations.

3.6. These Regulations do not preclude the right of any person to undertake rooftop solar projects through alternative mechanism.

3.7. In case a person is applying for a new electricity connection with the distribution licensee(s) along with rooftop solar system, the distribution licensee(s) shall not refuse the application on the pretext that the applicant is not an existing consumer.

- 3.8. A rooftop solar grid interactive system that has not received technical feasibility approval at the time of notification of these Regulations shall be required to be set up under these Regulations.

4. General Principles

- 4.1. The distribution licensee shall allow the eligible consumers net metering in its area of supply on a non-discriminatory and first come first serve basis. In addition, provision for net metering shall be open to all eligible consumers during the first two years from the date of notification of these Regulations. At the end of first two year's period, the Commission shall undertake a review of the various factors including, target achievement by the State, the state of the rooftop solar market, the impact of rooftop solar development on the distribution licensees, etc. and may consider any amendment, if required, based on the recommendations of the stakeholders.
- 4.2. The facility of net metering shall be applicable for a period of 25 years from the date of commissioning of the project.

Provided that any eligible consumer or third party, who intends to discontinue net metering arrangement with the distribution licensee shall be allowed, subject to a written notice to the distribution licensee made at least one month in advance. Any excess energy generation shall not be adjusted for by the distribution licensee.

4.3. Network Augmentation:

- a) In case network augmentation is required for LT consumers the cost of network up-gradation/ augmentation/strengthening shall be completely borne by the distribution licensee. The network up-gradation/ augmentation/strengthening work shall be executed by the distribution licensee.
- b) In case network augmentation is required for HT consumers the cost of network up-gradation/ augmentation/strengthening shall be borne by both the eligible consumer and the distribution licensee in the ratio of 50:50. The network up-gradation/ augmentation/strengthening work may be executed by the distribution licensee or the HT consumer.
- 4.4. **Control Period:** The Regulations shall come into force from the date of notification and shall stay in force up to FY 2021-22.
- 4.5. **Capacity Target for DISCOMs:** The distribution licensee shall continue to provide net metering arrangement to eligible consumers as long as the total capacity (in MW) of rooftop solar systems does not exceed the target capacity determined by the Commission;

Provided a maximum cumulative capacity of 500 MW shall be initially allowed to eligible consumers under net metering, in the State as a whole, to be reviewed yearly by the Commission.

- 4.6. **Generation Based Incentives (GBI):** In order to promote Solar Power generation in Haryana through net metering, the distribution licensees shall provide incentive on the power generated through rooftop solar system if approved by the Commission. The incentive payable under these Regulations shall be reviewed by the Commission every year along with ARR/Tariff petition for that year.

5. Eligible Consumers and Project Capacity

- 5.1. All consumers of electricity in the area of supply of the distribution licensee shall be eligible to avail net metering for the establishment of rooftop solar systems on a first-come-first-serve basis subject to the technical limitations as outlined in these Regulations.
- 5.2. Third party developers shall be allowed to set up rooftop solar projects under net metering and enter into appropriate agreements with rooftop owners/consumers.
- 5.3. **Transformer Loading:** The cumulative capacity of rooftop solar systems to be allowed at a particular distribution and power transformer shall not exceed 70% and 50% of the rated capacity of that distribution and power transformer in case of interconnection with the grid at low and high tension respectively or the revised transformer capacity limit as determined by the Commission from time to time.

Provided that the transformer mentioned above, considered for the purpose of calculating the loading percentage, shall mean the transformer owned by the distribution/transmission licensee.

- 5.4. The maximum rooftop solar system capacity, to be installed at any eligible consumer premises, shall not exceed 2 MW.

Provided that the maximum rooftop solar system capacity that can be set up by any eligible consumer shall be the minimum of the sanctioned load/contract demand of the eligible consumer and the available capacity at the distribution/power transformer.

Provided further that the eligible consumer is mandatorily to put up 10% battery storage for any incremental capacity from over and above 1 MW and up to 2 MW. This battery shall be able to store and deliver energy for one hour.

Provided further that minimum size of rooftop solar system that can be set up under net metering arrangement shall be not less than 0.5 kW.

Chapter — III
Coordination Committee and Cell

6. Rooftop Solar Coordination Committee and Cell

- 6.1. A Rooftop Solar Coordination Committee shall be constituted by the HERC and comprise of representatives from the HERC, Haryana Renewable Energy Development Agency, the distribution licensee(s), Office of the Chief Electrical Inspector, and consumer representatives.
- 6.2. Each distribution licensee shall constitute an in-house Rooftop Solar Cell, to promote rooftop solar in Haryana under the guidance of the Rooftop Solar Coordination Committee.
- 6.3. The Coordination Committee and Cell shall be constituted within one month from the date of notification of these Regulations.
- 6.4. The details of Constitution and functions of both the Coordination Committee and Rooftop Solar Cell have been attached in Annexure of these Regulations.

Chapter — IV
Interconnection with the Grid — Technical Standards and Safety

7. Interconnection with the Grid

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

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

- 7.2. The interconnection of the rooftop solar system with the network of the distribution licensee shall be made as per the technical standards for connectivity of distributed generation resources specified under the CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013, and subsequent amendments thereof.
- 7.3. The interconnection of the rooftop solar 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, as amended from time to time.

- 7.4. The eligible consumer shall be responsible for safe operation, maintenance and rectification of any defect of the rooftop solar 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.
- 7.5. The distribution licensee shall have the right to disconnect the rooftop solar system at any time in the event of threat/damage from such rooftop solar system to its distribution system to prevent any accident or damage, without any notice. The distribution licensee may call upon the consumer to rectify the defect within a reasonable time.
- 7.6. 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 grid. Applicable IEC/IEEE technical standards shall be followed to test islanding prevention measure for grid connected PV inverters.
- 7.7. The rooftop solar system must qualify the technical requirements for grid interconnection with the network of the distribution licensee and it shall be separately grounded/earthed.
- 7.8. Any alternate source of supply shall be restricted to the consumer's network and the consumer shall be responsible to undertake adequate safety measures to prevent battery power/diesel generator power/backup power extending to grid on failure of distribution licensee's grid supply.
- 7.9. Every rooftop solar system shall be equipped with automatic synchronization device.
- Provided that the rooftop solar system using inverter shall not be required to have separate synchronizing device, if the same is inherently built into the inverter.
- 7.10. 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.
- 7.11. The Technical Standards/Parameters/Regulations mentioned in this Section shall be followed as per the latest applicable/modified/amended versions of the corresponding Standards/Parameters/Regulations.

8. Technical Standards

All technical and operational aspects of rooftop solar system shall conform to the standard specified in the following Regulations/Codes, wherever applicable, as amended from time to time:

- a) The HERC (Haryana Grid Code) Regulations, 2009;
- b) The HERC (Electricity Supply Code) Regulations, 2014;
- c) The CEA (Technical Standards for Connectivity of the Distributed Generating Resources) Regulations, 2013;
- d) The CEA (Installation and Operation of Meters) Regulations, 2006;
- e) The HERC (Standards of Performance for the Distribution Licensee) Regulations, 2004;
- f) The HERC Distribution System Planning and Security Standards and Operating Standards;
- g) The CEA (Measures relating to Safety and Electric Supply) Regulations, 2010; and
- h) All other relevant Regulations issued from time to time.

Chapter — V

Metering, Energy Accounting, and Settlement

9. Metering

- 9.1. All meters installed at the rooftop solar system shall comply with the CEA (Installation and Operation of Meters) Regulations, 2006 and subsequent amendments thereof.

Provided that the meters shall also have Advanced Metering Infrastructure (AMI) facility with RS 485 (or higher) communication port.

Provided further that all rooftop solar systems of capacity 20 kW and above shall have, both the bi-directional meter and the solar generation meter as Automated Meter Reading (AMR) compliant meters.

Provided further that all rooftop solar systems of capacity 20 kW and above shall have the solar generation meter installed along with the net meter, outside the consumer premises.

- 9.2. It is mandatory to install an additional meter, i.e., solar generation meter of appropriate class accuracy equivalent to the net meter as specified under Clause 9.1 of these Regulations, to measure solar energy generation of the rooftop solar system of capacity 20 kW and above, to account for solar RPO and also to facilitate rebate/Generation

Based Incentives (GBI), if applicable. However, in case of rooftop solar system below 20 KW capacity, the distribution licensee may consider the solar energy generation for RPO benefits by considering 14% CUF.

- 9.3. It is mandatory to install adequate communication/data telemetry equipment with the rooftop solar system of capacity 20 kW and above, and share relevant data with the distribution licensee as per the requisite format.

Provided that an eligible consumer availing GBI, irrespective of the rooftop solar system capacity, shall mandatorily install adequate communication/data telemetry equipment with the rooftop solar system and share relevant data with the distribution licensee as per the requisite format.

Provided that an eligible consumer availing GBI, irrespective of the rooftop solar system capacity, shall install the solar generation meter installed along with the net meter, outside the consumer premises.

Provided further that it is mandatory to install solar irradiance measuring equipment for rooftop solar systems having capacity above 100 kW.

Provided further that the distribution licensee's Rooftop Solar Cell shall develop, submit to the Commission, and upload on its website, appropriate format for data collection within one month from the formation of Rooftop Solar Cell.

- 9.4. The cost of new/additional meter(s), including the cost of replacement, shall be borne by the eligible consumer. Meter(s) shall be installed and maintained by the distribution licensee.

Provided that the eligible consumer may procure the bi-directional meter/solar generation meter on its own and present the same to the distribution licensee for testing and installation as per the HERC Electricity Supply Code.

- 9.5. No meter rentals shall be charged from the consumer by the distribution licensee.

- 9.6. It shall be the distribution licensee's responsibility to satisfy itself regarding the accuracy of the meter(s) before it is installed and the distribution licensee shall undertake appropriate meter testing before installation.

- 9.7. The meters installed shall be jointly inspected and sealed on behalf of both the parties and shall be tested or checked only in the presence of the representatives of the consumer and the distribution licensee and as per the procedure specified in the Electricity Supply Code.

Provided that if the eligible consumer is under the ambit of time of day tariff, meters compliant of recording time of day consumption/generation shall be installed.

- 9.8. In case of multiple rooftop solar plant within a premises, the Net Meter and the Solar Generation Meter shall be installed at such locations in the premises or outside the premises of the eligible consumer or person as would enable easy access to the distribution licensee's representative for meter reading. The meter reading taken by the licensee shall form the basis of all commercial settlements.

10. Energy Accounting — Net Metering Arrangement

10.1. The energy accounting and settlement procedure for consumers installing and operating rooftop solar system under net metering arrangement shall be as per the following procedure:

- a) For each billing period, the distribution licensee will provide the following:
 - i. The quantum of electricity injected by the rooftop solar system in the grid in the billing period, including opening and closing balances;
 - ii. The electricity supplied by the distribution licensee to the eligible consumer in the billing period, including opening and closing balance;
 - iii. The net billed electricity, for which a payment is to be made by the consumer for that billing cycle, or net energy credits carried over to the next billing cycle.
- b) In case the electricity injected by the rooftop solar system exceeds the electricity consumed during the billing period, such excess injected electricity shall be carried forward to the next billing period as electricity credit and may be utilized in the following billing periods but within the same settlement period;
- c) In case the electricity supplied by the distribution licensee during any billing period exceeds the electricity injected in the grid by the eligible consumer's rooftop solar system, the distribution licensee shall raise invoice for the net electricity consumption after taking into account any electricity credit balance remaining from the previous billing periods;
- d) In case the eligible customer is under the ambit of time of day tariff, as determined by the Commission, the electricity consumption in any time block (e.g., peak hours, off-peak hours, etc.) shall be first compensated with the electricity injection in the same time block. Any excess injection over consumption in any time block in a billing cycle shall be carried forward to the corresponding time block in the subsequent month for adjustment purpose;

- e) The excess 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 imposed by the distribution licensee;
- f) The unadjusted net credited units of electricity shall be settled by the distribution licensee at the end of settlement period. These unadjusted units shall be considered as deemed injection and shall not be paid for by the distribution licensee;

Provided that unadjusted net credited units of electricity from solar agricultural pump sets shall be settled by the distribution licensee at the end of settlement period at the applicable APPC rate determined by the Commission.

Provided further that at the beginning of each settlement period, i.e., April, cumulative carried over electricity credits shall be reset to zero.

- 10.2. In case the applicable tariff provides for billing on kVAh basis, the net drawl or injection of energy shall also be measured in kVAh.
- 10.3. Regardless of availability of electricity credits with the eligible consumer during any billing period, the consumer will continue to pay applicable charges such as fixed/demand charges, Government levy, etc.
- 10.4. Minimum monthly charges (MMC), where applicable, shall be levied on the net consumption of the consumer.
- 10.5. The Commission may consider the applicability of modified MMC/ consumer sub-categories, changes/ modifications to retail supply tariff for consumers categories /sub-categories/slabs during review of HERC (Terms and Conditions of Determination of Tariff for Generation, Transmission, Wheeling and Distribution & Retail Supply under Multi Year Tariff Framework) Regulations, 2012 and amendments thereof, and/ or while determining the Tariff Determination Process for the DISCOMs/distribution licensees.
- 10.6. The distribution licensee shall accept the solar power as per the useful life of 25 years of the rooftop solar system unless the solar power generator ceases to be a consumer of the licensee or the rooftop solar system is abandoned earlier.
- 10.7. In case an eligible consumer leaves the system, that consumer's unused credits for excess energy generated shall be considered as deemed injection and shall not be paid for by the distribution licensee.

10.8. The distribution licensee will provide the following details along with the electricity bill relating to each billing period:

- a) Quantum of electricity injected into the distribution system by the rooftop solar system;
- b) Quantum of electricity supplied by the distribution licensee to the eligible consumer;
- c) Quantum of net electricity that has been billed for payment by the eligible consumer;
- d) Quantum of electricity credits available to the eligible consumer, which is carried over from the previous billing period;
- e) Quantum of electricity injected into the distribution system in excess of the drawl by the eligible consumer (quantum of electricity credits) which shall be carried forward to the next billing period.

10.9. The rooftop solar system commissioned under these Regulations, whether self-owned or third party owned installed on the premises, shall be exempted from all wheeling, cross subsidy, transmission and distribution, and banking charges and surcharges.

11. Energy Accounting During Meter Defect/Failure/Burnt

11.1. In case of defect/failure/burnt of the net meter, the rooftop solar system owner shall report the failure to the distribution licensee in the specified format of distribution licensee.

11.2. The distribution licensee shall undertake necessary action and replace the meter as specified in the HERC (Electricity Supply Code) Regulations, 2014, and amendments thereof.

11.3. The energy generated by the rooftop solar system during the period in which the meter ceased to function or became defective, the distribution licensee may consider the solar energy generation benefits by considering 14% CUF.

CHAPTER — VI

Application Process, Procedure, and Fee

12. Application Process and Procedure

12.1. Filing of Application

- a) The eligible consumer (applicant) may either apply online on the distribution licensee website and/or HAREDA website (Format 1). There shall be no application fee applicable.
- b) An applicant that is a Trust/Committee/Housing Society/Partnership Firm/ Company etc. shall submit the Application Form (Format 1) along with an Authorization Certificate (Format 1(a)).
- 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. (Format 1(b)).
- d) The distribution licensee shall maintain a separate Application Register (manual or online) for reference and records.

12.2. 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 (Form A) and submit the same to the Executive Engineer 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 Letter of Approval (LoA) (Format 2) via email/SMS/post within 22 days from the issuance of acknowledgement of application.

Provided that the proposed system size is equal to or less than 5 kWp, technical feasibility approval shall be provided to the applicant within five days from the date of application by the distribution licensee.

- d) In case of any deficiencies found in the application, on account of rooftop system capacity and available D.T. Loading as specified in these Regulations, during technical feasibility study, the same shall be intimated by the distribution licensee to the applicant via Format 2(a) through email/SMS notification within 22 days from the date of issuance of acknowledgement of application.

- e) The applicant shall remove all identified deficiencies within a period of 15 days from the receipt of intimation (Format 2(a)) and intimate the distribution licensee about the resolution of deficiencies (Format 2(b)) through email/post.

Provided that the DISCOM shall assess the resolution of deficiencies and provide LoA (Format 2) 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, the same shall be intimated to the applicant via Format 3(c) within 22 days from the issuance of the acknowledgement of application.

Provided that the technical feasibility is negative/non-satisfactory, 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 wait list shall be considered first before processing any new application.

12.3. Approval for Installation

- a) The applicant shall install the rooftop solar system within 180 days from the receipt of LoA (Format 2), as per the Standards/Codes specified under these Regulations.
- b) The aforesaid duration of 180 days is the maximum permissible time to the applicant for installation of rooftop solar, 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.

12.4. Signing of Agreement

- a) The applicant shall submit duly filled net metering agreement using Format 3 to the distribution licensee(s) 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.

12.5. Procurement of Meters

- a) In case the applicant intends to procure meter from the distribution licensee, the applicant shall submit the Intimation Form (Format 4) 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 (Format 5).

- 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 (Format 4(a)) 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 (Format 5).
- c) The distribution licensee/test centres shall intimate the applicant (Format 4(b)) regarding the completion of the meter testing.

12.6. Work Completion and Commissioning

a) For system size greater than 20 kWp:

- i. The applicant shall submit the Work Completion Report (Format 5) to the Office of Directorate of Electrical Safety, Government of Haryana (in case the project size is greater than 100 kWp) or to Chartered Engineers (as per the prevailing Sales circular/ instructions) for project size less than 100 kWp but above 20 kWp, with a copy to the distribution licensee. In case the consumer is availing subsidy, the work completion report is also to be shared with HAREDA.

- ii. The appropriate authority, as specified above, shall undertake system inspection and safety checks, as per applicable practices, within seven days of submission of work completion report and 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 distribution licensee shall synchronize the system with the distribution grid post verification of the Work Completion Report, install meters, issue letter of synchronization, and Date of Commissioning (COD) (Format 7) to the applicant.

b) For system size less than 20 kWp:

- i. The applicant shall submit the Work Completion Report (Format 5) to the distribution licensee. In case the consumer is availing subsidy, the work completion report is also to be shared with HAREDA.

- ii. The distribution licensee shall undertake system inspection and safety checks, as per applicable practices, within seven days of submission of work completion report and undertake system synchronisation.

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, issue letter of synchronization, and Date of Commissioning (COD) (Format 7) to the applicant.

12.7. Subsidy

- a) HAREDA to develop appropriate subsidy process within three months from the notification of these Regulations.
- b) Eligible consumers interested to avail subsidy, may approach HAREDA post receipt of LoA from the distribution licensee.

Chapter — VII

New Metering Arrangement and Business Models

13. New Metering Arrangement

13.1. The Commission realizes the need to promote and facilitate new and innovative implementation models for installation of rooftop solar systems. These models will focus on bringing in new types of metering arrangements for eligible consumers, especially located in the urban centres of Haryana and having constraints like access to adequate rooftop area/inaccessible rooftops, etc. One specific metering arrangement which the Commission aims to promote is virtual net metering (VNM) and its sub-categories including group virtual net metering, community net metering, etc. which are discussed in subsequent sections. For the time being, only concept of VNM is being specified, which will need to be further deliberated and finalised before it is implemented.

13.2. VNM is a metering arrangement by which a distribution licensee allows utilisation of credit of solar energy generated by a rooftop solar system at one point (premises), t at another point (premises) within its area of supply. The VNM is a bill crediting system for consumers who intend to set up a rooftop solar system but have inadequate rooftop space to deploy these systems. This enables setting up a rooftop solar system externally and the net metering benefits (energy credits) are shared amongst the participating consumers. In this case, the consumer receives credit on their electricity bill for any excess energy produced by the rooftop solar system installed at another location.

13.3. Single Owner – Multiple Premises VNM:

- a) Under single owner - multiple premises VNM, which may also be termed as Group VNM (G-VNM), a single owner can install rooftop solar installations at any of its premises and utilise the energy generated by this system across all participating premises within the licensed area of the same Discom. All consumers categories of the DISCOMs are eligible to participate in G-VNM.
- b) Under this arrangement, all the participating premises located within the supply area of the same distribution licensee and have electricity connections in the name of same person/ entity. The person/entity participating under this arrangement may set up rooftop solar system(s) and get the benefits of net metering arrangement simultaneously at its multiple premises within the supply area of the same distribution licensee. For the purpose of G-VNM, the premise where rooftop solar system is set up shall be referred to as a G-VNM generator, and all the other participating premises shall be referred to as a G-VNM consumers.

Provided that a G-VNM consumer can be a part of only one G-VNM arrangement and cannot utilize energy generation by two different G-VNM generators to set off its energy consumption.

- c) The following conditions are required for an entity to set up G-VNM based rooftop solar system in a distribution licensee area:
 - i. All the generation and consumption points / premises shall be within the same distribution licensee area.
 - ii. All the participating premises for rooftop solar system installation (both for generation and consumption) shall have active electricity connection in the name of the same person/ entity.
 - iii. The generation as well as the consumption (energy credit) under G-VNM shall be allowed at multiple points and would be done at the discretion of the person/entity at the time of filing of the application.
 - iv. Third Party ownership (RESCO) is not allowed under G-VNM.
- d) Operational Guidelines:
 - i. All principles applicable to the net metering arrangement, as specified in these Regulations, shall also apply to G-VNM, except for the limitation around

individual project size at one location and the set-off of energy consumption at one premises from excess generation from other participating premises.

- ii. To set up a rooftop solar system under G-VNM arrangement, the minimum project size shall be 200 kWp or above.

Provided that any premises to qualify as a G-VNM generator site shall have 25 kW of sanctioned load/contract demand (as applicable) and 25% of the total participating capacity shall be installed on roof(s), whichever is higher.

- iii. Network Augmentation: The distribution licensee shall ensure that the Transformer Loading limits as mentioned in Clause 5.3 of these Regulations is not exhausted for normal net metering arrangement, on account of allowing VNM on a particular transformer and in such case the person/entity availing the G-VNM facility shall bear the cost of network augmentation attributable to his portion of G-VNM facility being availed from the transformer.
- iv. Capacity Limitation: The sum of the capacities for all rooftop solar systems shall be limited to the cumulative sanctioned load/contract demand (as applicable) of all the participating premises under the G-VNM arrangement.
- v. All the applications for G-VNM arrangement shall be filed directly to the Rooftop Cell/Designated Officer (equivalent to the rank of Superintending Engineer — Commercial or above) at the head office of the distribution licensee.

e) General Principles:

- i. The person/ entity having multiple premises (connection numbers) shall apply to the distribution licensee for G-VNM. The person/entity shall attach the proof of ownership/proof of lease or tenancy of all the participating premises with the application.
- ii. At the time of application, the entity shall specify the following:
 - a. Total sanctioned load/contract demand, as applicable, of each participating premises, i.e., the premises that shall be the beneficiaries of any excess energy credit.
 - b. The total size (in kWp) of the rooftop installations across various premises or the G-VNM generator.

- c. The allocation for proportion of the excess generation from each G-VNM generator to specific G-VNM consumer installations for energy accounting and settlement purpose.
- iii. Post allocation of excess generation to participating G-VNM consumers, energy accounting and settlement shall be in accordance with the net metering arrangement as specified under these Regulations.
- iv. The apportionment of excess generation shall be in proportion to the sanctioned load/contract demand (as applicable) of the participating G-VNM consumers connected with the G-VNM generator.
- v. To facilitate G-VNM in its area of supply, the distribution licensee shall undertake requisite changes in the billing software for energy accounting and settlement purpose within six months from the date of notification of these Regulations.
- vi. In case a G-VNM consumer (premises) disconnects from a G-VNM group, the person/entity may allocate the surrendered capacity in same proportion to another G-VNM consumer (premises) or may apply for reallocation of the of the solar generation in the G-VNM group.

Provided that the new G-VNM consumer premise shall be owned by the same entity.

Provided further that till the option of introducing new G-VNM consumer or reallocation is exercised by the person/entity, the prevailing allocation would continue and the generation attributable to the disconnected G-VNM consumer shall be availed by the distribution licensee without any financial implication on the distribution licensee.

- vii. In no case, the rooftop solar system shall be allowed to relocate to any other premises during the useful life period.

13.4. Bulk Supply VNM (BS-VNM):

- a) To facilitate rooftop solar net metering facility for consumers where the sanctioned load and rooftop area is shared between multiple consumers under bulk supply tariff regime through a single connection, such as bulk supply (single point supply, multiple consumers and multiple owners) group housing societies.

Provided that BS-VNM is applicable only to bulk supply (single point supply) domestic/ residential consumers such as group housing societies, etc.

- b) The system can either be owned by the consumer(s) or a third party (RESCO).
- c) The system shall be located within the premise(s) of the bulk supply consumer.
- d) All energy produced by the rooftop solar system shall be fed into the bus bar of the bulk supply consumer and the injected energy as recorded by solar generation meter will be apportioned on pro-rata basis in the electricity bill of each participating consumer on the basis of the corresponding share of the collective ownership.

Provided that the main meter of the bulk supply consumer will be replaced with a bi-directional meter”

- e) Post the pro-rata apportionment of excess energy, the energy accounting and settlement shall be as specified for net metering in these Regulations.

Provided that the apportionment of excess energy to the participating consumers shall be undertaken by the residential welfare association/ housing society (or equivalent body) in the monthly bill of these participating consumers.

13.5. Community Virtual Net Metering (C-VNM)

- a) This net metering arrangement shall be applicable only to the residential consumer category and government departments.

Provided that only those consumers that have either inadequate rooftop size or non-availability of rooftop space for installing rooftop solar systems, such as residential consumers staying in apartments, high rise building, etc.

Provided further that the consumer first needs to set up rooftop solar system at its own premises, once that rooftop space has been fully utilized only then the consumer can participate in C-VNM.

- b) The system can either be owned by the consumer(s) or a group of consumers or third party (RESCO).
- c) A minimum of two eligible consumers are required to avail the community net metering.

Provided that all the participating eligible consumers shall be under the supply area of a particular distribution licensee.

Provided further, the premises where rooftop solar system is installed shall also be under the supply area of the same distribution licensee.

- d) The excess energy shall be credited, on pro-rata basis, to the participating eligible consumers as part of this net metering arrangement.
 - e) Post the pro-rata credit of excess energy, the energy accounting and settlement shall be as specified for net metering under these Regulations.
- 13.6. Development of implementation framework for these new metering arrangements require deliberations and stakeholder consultations. The Coordination Committee shall take up this task on priority and submit an approach paper covering all the aspects facilitating adoption of these metering arrangements within 3 months of the notification of these Regulations.
- 13.7. Based on the approach paper submitted by the Coordination Committee, the Commission will undertake public consultation and come up with practice guidelines on new metering arrangements.

14. Utility Driven Business Models

- 14.1. Large scale rooftop solar deployment in Haryana needs proactive participation from the distribution licensee. However, it is understood that the distribution licensee may have revenue impact due to large scale adoption of rooftop solar. Nonetheless, in the wake of the changing business environment, the distribution licensee can ill afford to operate in the conventional way, i.e., maintaining wires/network, supplying power to consumers, and explore new business streams such as adopting utility driven business models for rooftop solar. This approach shall not only facilitate and expedite rooftop deployment but also open up new revenue streams for the distribution licensee.
- 14.2. To facilitate and achieve maximum possible rooftop solar in the State, and help distribution licensees minimize revenue impact due to large scale deployment of rooftop solar, it is advisable for the distribution licensees to actively explore utility driven business models to facilitate rooftop solar deployment, so as to open new revenue streams.
- 14.3. Based on the above objectives, the distribution licensee may consider to adopt various utility driven business models including the Aggregated Procurement Model and Super RESCO Model. However, implementation of these models shall require certain institutional infrastructure to be in place in advance. Development of the institutional knowhow and infrastructure shall require some preliminary understanding and diligence in terms of framework, process, resource utilization, and Regulatory

approvals, etc. by the distribution licensee.

14.4. The distribution licensee's business of maintaining wires (network) and supply (retail sale of power) is a regulated business. The income and expenses of this regulated business is governed under the HERC (Terms and Conditions for Determination of Tariff for Generation, Transmission, Wheeling and Distribution, and Retail Supply Under Multi Year Tariff Framework) Regulations, 2012, and amendments thereof. As these utility driven business models shall facilitate the distribution licensee to explore new revenue streams, there is a need to deliberate on the Regulatory aspects of incorporating these business models as part of the distribution licensee's business, such as:

- a) Will these business models form part of distribution licensee's regulated business or un-regulated business;
- b) Conditions of grant of capex approval, if required;
- c) Rate of Return of Equity — Generation or distribution;
- d) Treatment of revenue streams under these business models;
- e) Treatment of costs/expenses under these business models;
- f) Whether gains/losses on account of these business models required to be shared with consumers? If yes, then in what proportion? Allocation of common costs/utilization of assets between the distribution business and the utility driven rooftop solar business;
- g) Other Regulatory issues.

The above mentioned issues shall necessarily have larger impact beyond the ambit of these Regulations, as they shall directly or indirectly have an impact on the tariff of the distribution licensees. Therefore, these issues shall be deliberated at the time of amendment and/or formation of new 'terms and conditions of Multi Year Tariff (MYT) Regulations by the Commission.

Therefore, the distribution licensee's Rooftop Solar Cell shall deliberate and submit an approach paper covering the possible business models which may be promoted by the distribution licensee, the specific institutional and operational requirements for implementing these business models, and the Regulatory interventions (both tariff and non-tariff) required for facilitating adoption of the same within two months of the notification of these Regulations.

14.5. Based on the approach paper submitted by the distribution licensee's Rooftop Solar

Cell, the Commission shall undertake due public consultations and issue necessary amendments in its Regulations required to promote utility driven business models and also issue practice guidelines. The focus of the approach paper shall be on the following:

- a) Targeted areas (geographical) and targeted consumer categories – the areas, types of consumers, benefit from rooftop solar system for the consumers and the distribution licensee shall be spelled out;
- b) The distribution licensee shall try and develop one pilot under each of the models identified by it for implementation within six months of the delivery of the approach paper to the Commission;
- c) The benefits of the utility based business model shall be outlined upfront and documented for the development process to progress;
- d) The cost benefit analysis for the consumer, the distribution licensee, and the impact on tariff shall also be evaluated and documented; and
- e) A detailed implementation plan for the first two pilots and a strategy to scale this up throughout the State shall also be outlined in the approach paper.

Chapter — VIII Other Provisions

15. Applicability of Other Charges

The rooftop solar system under net metering arrangement whether self-owned or third party owned, installed on the premises of eligible consumer or person, shall be exempted from various provisions of the HERC (Terms and Conditions for Grant of Connectivity and Open Access for Intra-State Transmission and Distribution Systems) Regulations, 2012 as amended from time to time.

Further, the rooftop solar system under net metering arrangement, whether self-owned or third party owned installed on eligible consumer premises, shall be exempted from banking and wheeling charges and cross subsidy surcharge for a period of 25 years from the date of commissioning, irrespective of the fact whether these Regulations are amended or repealed.

16. RPO

The quantum of solar energy towards RPO compliance shall be compiled by the distribution licensee in accordance to the solar generation meter reading as stipulated in these

Regulations.

Provided that, in case of rooftop solar systems that does not have solar generation meter installed as per the provisions of these Regulations, the distribution licensees may consider the solar energy generation for RPO benefits by considering 14% CUF.

Provided further that in case of agriculture pump set up under net metering, all the solar energy generated by these pumps will be accounted towards incumbent DISCOMs RPO compliance.

Chapter — IX Miscellaneous

17. Power to Give Directions

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

18. 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.

19. 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.

20. Power to Amend

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

21. Repeal and Savings

21.1. Save as otherwise provided in these Regulations, the HERC (Rooftop Solar Grid Interactive System Based on Net Metering) Regulations, 2014, are hereby repealed.

Provided that the rooftop solar systems commissioned during the applicability of the HERC (Rooftop Solar Grid Interactive System Based on Net Metering) Regulations, 2014 shall continue to be governed by the aforesaid Regulations and shall not be governed by the New Regulations.

Annexure

A. Rooftop Solar Coordination Committee

- 1.1. The Rooftop Solar Coordination Committee shall assist the Commission and distribution licensee(s) to drive the rooftop solar program implementation under these Regulations.
- 1.2. The Committee shall meet at least once in every two months to take up the functions assigned to it and submits its proceedings to the Commission.
- 1.3. The Committee shall comprise of the following members:
 - a) One member of the Commission to act as the Convener;
 - b) Director (Technical/Tariff) of the Commission to act as the Secretary of the Coordination Committee;
 - c) Two representatives of each distribution licensee in the State (Rank of Superintending Engineer or In-Charge of Rooftop Solar Cell);
 - d) One representative from HAREDA (Rank of Project Manager and above);
 - e) One representative from the Office of Electrical Inspector;
 - f) Maximum two independent external members from the Government departments having special knowledge or experience of solar sector to be nominated by the Commission;
 - g) Maximum three representatives from consumer or consumer associations representing interests of domestic, commercial, and industrial category consumers.
- 1.4. Functions of Rooftop Solar Coordination Committee
 - a) Advise the distribution licensee(s) to develop consumer friendly interconnection procedures, including, changes in billing systems, load flow studies, procurement of bi-directional meters etc.
 - b) Promote cross-learning among the distribution licensees and other stakeholders in facilitating the rooftop solar sector.
 - c) Review rooftop solar programs and plans submitted by the distribution licensee and advise the Appropriate Commission in assessment and approval.
 - d) Assist in developing common programs across the distribution licensees' (common

procurement and common specifications for equipment/technology).

- e) Provide support to the Commission for instituting Rooftop Solar Plan/Program monitoring, review, and monitoring and evaluation (M&E) as and when required.
- f) Advise the Commission in developing various guidelines resulting in facilitation of rooftop solar program implementation.
- g) Assist the Commission to develop tariff mechanisms, including incentive mechanisms such as GBI for promoting rooftop solar.
- h) Create avenues for training/capacity building and share experience regarding the entire rooftop solar implementation in the State.
- i) Advise the distribution licensee to develop and maintain database and centralized information systems.
- j) Appraise the Commission on the entire rooftop solar related activities on quarterly basis.
- k) Review of awareness activities/campaigns/exhibitions and consumer interaction sessions developed by the distribution licensee and to supervise them.

B. DISCOM Rooftop Solar Cell

2.1. Constitution of Rooftop Solar Cell

- a) Every distribution licensee shall constitute a Rooftop Solar Cell (under an officer of status/rank not below that of Superintending Engineer or equivalent).
- b) The Rooftop Cell so constituted shall be provided with necessary authority and resources with relevant qualification and experience so as to execute the functions assigned to the Distribution Licensee under these Regulations.
- c) Representative from the state nodal agency (SNA) (Project Officer) shall facilitate the Technical and Process Committee on subsidy related and allied matters.

2.2. The Rooftop Solar Cell shall meet at least once in a months to take up the functions assigned to it and submits its proceedings to the Rooftop Solar Coordination Committee.

2.3. Functions of Rooftop Solar Cell

- a) Design interconnection process and procedures, adhere to Policy and Regulatory

provisions, support and address issues being faced for smooth deployment of rooftop solar in the State.

- b) Appraise utility field officials about the changes in Policy and Regulatory provisions.
- c) Develop web based application system for ease in application filing, monitoring, and tracking of the same.
- d) Assist the billing department to incorporate adequate changes in its billing procedures and develop online billing mechanism, if it does not exist already.
- e) Form Technical and Process Committee to facilitate adequate framework for large scale deployment of rooftop solar in the State.
- f) Support stakeholders during implementation of the interconnection framework and address issues and bottlenecks.
- g) Assist senior management and utility field officers to ease rooftop solar deployment.
- h) Facilitate training of field officers on rooftop solar.
- i) Assist and act on the directions of Coordination Committee, constituted under these Regulations.

2.4. Reporting Requirement of Rooftop Solar Cell

- a) Rooftop Solar Cell of distribution licensee(s) shall submit quarterly report to the Rooftop Solar Coordination Committee and shall also place this information on the distribution licensee(s) website.
 - i. Total number of applications received;
 - ii. Total number of applications processed;
 - iii. Number of applications rejected or on hold with reason(s) of rejection;
 - iv. Total number of eligible consumers' interconnections at the end of previous quarter;
 - v. Total kW capacity of eligible consumers' interconnected at the end of previous quarter;
 - vi. Total kWh received by the eligible consumer from the distribution licensee by month and by quarter;
 - vii. Total kWh of solar energy generated by the eligible consumer by month and by quarter;

- viii. Total kWh delivered by the eligible consumer to the distribution licensee as per the billing cycle and by quarter;
- ix. For each eligible consumer interconnection:
 - a. Solar technology utilized;
 - b. Gross power rating;
 - c. Geographic location; and
 - d. Date of interconnection.

Format 1
Application form for connectivity of Rooftop Solar Photovoltaic (RTSPV) System
 (To be submitted by Applicant)

Application Form Number _____ **(To be filled by DISCOM)**

To

The Executive Engineer

_____ (Distribution Licensee Name)

_____ (Name of the Division)

(Name / Address of office)

Date:

I / we herewith apply for a renewable energy Net/ Gross metering connection at the existing service connection for RTSPV system. The details are provided below.

S. No.	Particulars	Details of the Applicant
1.	Name and Address of Consumer/Applicant (with site address)	Name Father's Name Address
2.	Consumer No. (CA. No.) (Owner of the premises)	
3.	Category (Domestic/ Non-Domestic/Commercial etc. specify) (Owner of the premises)	
4.	Aadhaar Number	
5.	Telephone number	
6.	Email Address	
Details of the Existing Connection		
7.	Sanctioned Load/ Contracted Demand (kW/ kVA/ HP)	
8.	Existing Connectivity Voltage (Single Phase LT/ Three Phase	

S. No.	Particulars	Details of the Applicant
	LT/ Three Phase HT)	
	Details of the Proposed System	
9.	Capacity of RTSPV system proposed to be connected (kW	

Certification

I hereby state that the information provided above is best and true to my knowledge.

Date:

**Signature of Eligible Consumer/
Authorized Signatory**

Place:

Documents to be submitted along with the application form:-

1. Certificate of Authorized Signatory, if other than domestic Applicant.
2. Papers establishing ownership of premises where RTSPV System is being installed
3. Copy of **Latest** electricity bill
4. Mode of payment- Online (NEFT/RTGS/Credit Card/Debit Card) – to be adjusted in bill
5. Copy of Aadhaar Card

Note:

Only the person who has the service agreement with the appropriate DISCOM can avail the RTSPV metering connection. If the agreement is not in the name of the Applicant, then the Applicant must undertake Change of Tenancy with the appropriate DISCOM before applying for metering connection.

Related Instructions and Terms & Conditions for Submission of Format 1

Instructions:

1. The filled-in application along with the necessary documents shall be submitted to concerned Division office, _____ DISCOM.
2. The application fees (non-refundable) of INR _____ shall be payable in Cash / DD / Online (NEFT/RTGS) / adjusted in the bill.
3. It is recommended that the Applicant select a system installer to install the RTSPV System who is an empaneled contractor with Ministry of New and Renewable Energy (MNRE), Govt. of India and/ or SNA. The list of the same is available on the website of MNRE and SNA
4. For RTSPV system size of more than ----- kWp (as per the State's regulations), the inspecting officer of the Electrical Inspectorate, State Government shall inspect and issue a Safety Certificate for commissioning.
5. For RTSPV system size of less than ----- kWp, the consumer will submit a safety certificate issued by chartered engineers circulated vide circular no._____, or any other authority or self-certified, as per the regulations of the respective State.

General Terms and Conditions:

1. The premise must have easy access for inspection, metering and other necessary checks.
2. The Applicant should be the owner of the property or an authorized person of the owner organization or third party, as the case may be. If the property is in the name of the Company, Trust, Co-operatives / partnership firms, then authorization shall be assigned to a person for correspondence, paperwork, execution of various agreements, etc. The board / management of the organization must authorize such person. In case of partnership firms, the authorized signatory must be one of the partners, to whom written consent has been given by the other partners.
3. The suggestive format for authorization certificate can be downloaded from the website or from Consumer Information manual. This authorization certificate must be submitted to the DISCOM office at the time of submitting the interconnection agreement signed by the authorized person.
4. Application is not transferable.
5. DISCOM shall not be held responsible for any legal disputes between the Applicant and RTSPV installer arising out of the contract.
6. The proposed capacity of the RTSPV system shall be in-line with the provisions of the appropriate supply code and Regulations of SERC, as amended from time to time, for permitting consumer connections.

Format 1(a)
Authorization Certificate

(To be submitted by the Applicant, in case applicable)

(For the application registered for installation of renewable energy system under net/ gross metering program on behalf of a Trust / Committee / Housing Society etc.)

Date: _____

We, _____ (Name of Trust / Company / Committee / Housing Society, etc.), residing at _____

_____ Pin: _____

wish to participate in the on-going net/gross metering plan for installation of RTSPV system initiated by DISCOM and we accept all the terms and conditions mentioned in the application form and any other formats laid down by DISCOM for this purpose.

Mr./Ms. _____ (Name of Official /Person), residing at _____ is hereby mutually authorized to accept on our behalf, all the terms and conditions of the RTSPV net/ gross metering program regarding installation and commissioning of RTSPV system mentioned under the Application form or any other format prepared in this behalf by DISCOM and to execute such documents, agreements and other writings as may be necessary or required for this purpose

Further, the above authorized person namely Mr./Ms _____ (Name with Contact Number) is also nominated as the contact person on our behalf for any matter relating to the Installation, Operation and Inspection of RTSPV system.

Signature/ Name of authorized person/ organization
(With Stamp)
Designation of authorized person

Name of the signing officer
Designation of the signing officer

Format 1(b)
Acknowledgement Slip
(Manual / Automated response by the DISCOM)

S. No.	Particulars	Remarks
1.	Application Number	
2.	Name of the Applicant	
3.	Consumer Number	
4.	Rooftop Solar PV Plant Capacity (kW)	
5.	Application fees details – Receipt number and date	
6.	Application is complete in all respects and all details provided (Yes/No)	

Name of Officer

Signature

Seal

(Designation of Officer)
(To be specified at the time of signing)

(Acknowledgement Form will be a system generated mail and SMS. This will be issued immediately once the Applicant has filled his/ her application online. The acknowledgement email/ SMS will contain the information listed out above).

Format A
Technical Feasibility Report

(To be filled by Sub Divisional Engineer, DISCOM)

S. No.	Particulars	Details
A.	Details of the Applicant	
1.	Application Number	
2.	Name of the Applicant	
3.	Address of Applicant	
4.	Phone/ Mobile Number	
5.	Email	
6.	Category (Please tick ✓)	Domestic Non Domestic Industrial Non Industrial Others (please specify)
7.	Type of connection (Please tick ✓)	1 Phase LT 3 Phase LT 3 Phase HT
8.	Sanctioned Load (kW/ kVA/ HP) Contract demand (kVA)	
B.	Details of the Distribution Transformer (DT)	
9.	Location and Transformer no./ Asset Code	
10.	Capacity of DT (kVA)	
11.	RTSPV system capacity proposed under this application (kW)	
12.	Whether the transformer capacity is adequate as per SERC's applicable Regulations and whether the consumer can go ahead for installation of system for the proposed capacity (Please tick ✓)	Yes No Yes but with reduced capacity of -----

I hereby certify that the above said RTSPV System is technically feasible/ not feasible/ feasible with --
----- capacity.

Signature

Name of Authorized Person and Designation

Name of the DISCOM

Date

Format 2
Letter of Approval (LoA) for Consumer with respect to the Application for Net/ Gross Metering and Grid Connectivity of Grid Connected Rooftop Solar PV System
(To be filled by the DISCOM)

Date

To

(Applicant's name) _____

(Consumer No.) _____

Ref: Your Application no. _____ dated _____

With reference to above-mentioned Application number, after the technical feasibility (Format A attached), approval is provided for installing RTSPV system of _____ kW in your premises.

Following are the terms and conditions for installing the system:

1. It is recommended that you select an empaneled system installer of your choice to install the RTSPV system. A list of empaneled installers of grid-connect PV systems by MNRE (Ministry of New and Renewable Energy, Government of India) / SNA is available.
2. All components of RTSPV system must comply with applicable BIS/IEC standards. Please find attached a list of standards to be complied with attached with this approval letter.
3. You must submit the copy of Manufacturers Test Certificates for all components for having complied with relevant BIS/IEC standards of the selected model along with work completion report.
4. In case of any changes required at your premises due to this proposed installation, these shall be performed by you at your own cost.
5. The grid connectivity of the system shall be in accordance with the SERC's applicable Regulations any amendments thereof from time to time and shall confirm to requirements of State Government's Solar Policy.
6. In case the Applicant desires to purchase the Net/ Gross meter on its own (with prior permission from DISCOM), the same shall be purchased from DISCOM approved vendors (as per DISCOMs approved technical specifications). These meters shall be successfully tested from DISCOM or their authorized laboratory. The DISCOM shall fix this meter on receiving system test and safety certificate from CEI/EI (only applicable to RTSPV systems of more than xx kW/ kVA in size) during synchronization. For system size less than xx kWp/ kVA, the consumer need to submit safety certificate issued by a chartered engineer, or any other certificate, applicable as per the State's Regulations.

7. All the safety measures and standards of the installed system must comply with requirements as stated in CEA/SERC Regulations and all standards referred to in those Regulations.
8. Please submit the following documents after installation of RTSPV system:
 - a. Inspection Report by Chief Electrical Inspector/ Electrical Inspector, State Government, safety certificate issued by Chartered Engineer, as applicable;
 - b. Work Completion Report in provided format;
 - c. Test Certificate of Net/ Gross meter from DISCOM approved laboratory, if applicable;
 - d. Copy of signed Net/ Gross Metering Interconnection Agreement.

This approval is valid for 180 days from the date of issuance of letter and the RTSPV system is to be commissioned within this period, failing which the approval will stand cancelled.

You may download all technical specifications, standards and other requirements of the solar rooftop system from _____ (link to website of documents download)

Signature of Officer

Name and Designation of the Authorized Officer

Date

Stamp

Format 2(a)
Intimation on deficiency scrutinized in the Application
(To be filled by DISCOM)

To

Name of the Applicant _____

Date _____

Ref: Your Application no. _____ dated _____

Subject: Intimation for Removal of Deficiency

This is to inform you that we have received your above-mentioned Application and after the technical feasibility of the RTSPV system (Format A attached), DISCOM have found that the Application is not complete, because of the under-mentioned reason:

Please complete the above query within 15 days of receipt of this letter. In case you have not completed the formality within the given period, your Application shall stand cancelled and paid fees, if any, shall not be refunded.

Furthermore, it is found that due to above-mentioned constrains it is not feasible for the DISCOM to provide connectivity at all/ up to the applied capacity (tick appropriate). However, the connectivity is feasible for a reduced capacity of ____ kW.

Based on this communication, the Applicant can:

1. Accept the connectivity at reduced capacity and approach the DISCOM (Division Office) to process the case; Or
2. Withdraw the Application.

Signature of Officer

Name and Designation of the Authorized Officer

Date

Stamp

Format 2(b)
Response of Applicant for Removal of Deficiencies as intimated after the technical feasibility
(To be filled by Applicant)

To

The Executive Engineer

_____ (Distribution Licensee Name)

_____ (Name of the Division)

_____ (Name / Address of office)

Date:

Subject: - Response of deficiencies found after technical feasibility (Form 2(a))

With reference to the DISCOM's letter (Form 2(a)), dated _____, regarding the intimation on deficiencies found in the Application/ operational constraints to provide connectivity at the applied capacity.

The Applicant will exercise the following option (tick the appropriate choice):

Applicant/ Consumer Response ((Please tick ✓)

1. I have incorporated the mentioned deficiencies in the Application Form.
2. I accept the connectivity at reduced capacity as intimated by the DISCOM vide letter dated _____ and request the DISCOM to process the case.
3. I withdraw my Application.

Name and Signature of Applicant:

Application Number:

Format 2(c)

Intimation for Non-Feasibility and Termination of the Application

(To be filled by DISCOM)

To

Name of the Applicant _____

Date _____

Ref: Your Application no. _____ dated _____

Subject: Intimation of termination of the Application due to non-feasibility/ operational constraints

This is to inform you that we have received your above-mentioned Application and after the technical feasibility of the RTSPV system (Format A attached), DISCOM have found that the Application is not feasible at this stage due to the following reasons:

The Application hereby stands terminated and the Application Fee shall be refunded within 7 days from the date of issuance of this letter.

Signature of Officer

Name and Designation of the Authorized Officer

Date

Stamp

Format 3
Inter-connection agreement (Net/ Gross Metering Arrangement)
Between DISCOM and Applicant

This Agreement is made and entered into at (location)_____ on this (date)_____ day of (month), (year)_____ between

The Eligible Consumer (Name)_____residing at (address)_____ as first party

AND

Distribution Licensee_____ (herein after called as Licensee) and having its registered office at (address)_____ as second party of the agreement.

Whereas, the eligible consumer has taken the responsibility to set up or facilitate the requisite Photovoltaic system and injection system into the Licensee's grid.

And whereas, the Licensee has verified the application and agrees to benefit the eligible consumer for the electricity generated and as per conditions of this agreement and net-metering Regulations.

Both the parties hereby agree as follows:

1. Eligibility

- 1.1 Eligible consumer agrees that the standards and conditions of his Photovoltaic system meet the norms for being integrated into grid/distribution system and that he shall maintain the system accordingly for the duration of this agreement.
- 1.2 Eligible consumer agrees that for connection of his Photovoltaic system to Licensee's distribution system, he shall be bound by requirements of state Distribution Code and/or Licensee's conditions of service and such connection shall not affect the performance of the grid with specified reliability, security and quality as per the Central Electricity Authority (Grid Standard) Regulations 2010 as amended from time to time.

2. Technical and Interconnection Requirements

- 2.1 Eligible consumer agrees that the interconnection of the rooftop solar system with the network of the licensee shall be made as per the technical standards for connectivity of distributed generation resources specified under the Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013 and subsequent amendments thereof.
- 2.2 Eligible consumer agrees that he has installed or will install, prior to connection of Photovoltaic system to Licensee's distribution system, an isolation device (both automatic and inbuilt within inverter and external manual relays) and agrees for the Licensee to have access to and operation

of this, if required, for repair and maintenance of the distribution system.

- 2.3 Eligible consumer agrees that in case of a power outage on Licensee's system, photovoltaic system will shut down, unless special transfer and isolating capabilities have been installed on photovoltaic system.
- 2.4 Eligible consumer agrees that Licensee will specify the interface/inter-connection point and metering point.
- 2.5 Eligible consumer agrees to furnish all the data such as voltage, frequency, breaker, isolator position in his system, as and when required by the Licensee. He may also try to provide facilities for online transfer of the real time operational data.

3. Safety

- 3.1 Eligible consumer shall comply with the Central Electricity Authority (Measures Relating to Safety and Electricity Supply) Regulations 2010.
- 3.2 Eligible consumer agrees that the design, installation, maintenance and operation of the photovoltaic system are performed in a manner conducive to the safety of the photovoltaic system as well as the Licensee's distribution system.
- 3.3 Due to Licensee's obligation to maintain a safe and reliable distribution system, eligible consumer agrees that if it is determined by Licensee that eligible consumer's photovoltaic system either causes damage to and/or produces adverse effects affecting other distribution systems' consumers or Licensee's assets, eligible consumer will have to disconnect photovoltaic system immediately from the distribution system upon direction from the Licensee and correct the problem at his own expense prior to a re-connection.

4. Clearances and Approvals

- 4.1 The eligible consumer agrees to obtain all the necessary approvals and clearances (environmental and grid connected related) before connecting the photovoltaic system to the distribution system.

5. Access and Disconnection

- 5.1 Licensee shall have access to metering equipment and disconnecting devices of photovoltaic system, both automatic and manual, at all times.
- 5.2 In emergency or outage situation, where there is no access to the disconnecting devices, both automatic and manual, such as a switch or breaker, Licensee may disconnect service to the premises.

6. Liabilities

- 6.1 Eligible consumer and Licensee will indemnify each other for damages or adverse effects from either party's negligence or intentional misconduct in the connection and operation of photovoltaic system or Licensee's distribution system.
- 6.2 Licensee and eligible consumer will not be liable to each other for any loss of profits or revenues, business interruption losses, loss of contract or loss of goodwill, or for indirect, consequential, incidental or special damages, including, but not limited to, punitive or exemplary damages, whether any of the said liability, loss or damages arise in contract, or otherwise.
- 6.3 Licensee shall not be liable for delivery or realization by eligible consumer for any fiscal or other incentive provided by the central government.

7. Commercial Settlement

7.1 All the commercial settlement under this agreement shall follow the SERC applicable Net/ Gross Metering Regulations.

8. Connection Costs

8.1 The eligible consumer shall bear all costs related to setting up of photovoltaic system including metering and interconnection costs. The eligible consumer agrees to pay the actual cost of modifications and upgrades to the distribution facilities required to connect photovoltaic system in case it is required.

8.2 Costs of all interconnection equipment including the isolators, and meters. are also to be borne by the eligible consumer.

9. Termination

9.1 The eligible consumer can terminate the agreement at any time by giving 30 days prior written notice to the Licensee.

9.2 Licensee may terminate the agreement with 30 days prior written notice, if eligible consumer breaches any term of this agreement and does not remedy the breach within 30 days of receiving written notice from the Licensee of the breach.

9.3 Eligible consumer, upon termination of this agreement, shall disconnect forthwith the photovoltaic system from Licensee’s distribution system.

In witness, whereof, Mr. for and on behalf of (Eligible consumer) and Mr. for and on behalf of (Licensee) sign this agreement in two originals.

Eligible Consumer/ Third Party

Name:
Address:
Service connection no:
Date:

Distribution Licensee

Name:
Designation:
Office Address:
Date:

Format 4
Intimation of Meter Procurement
(To be filled by Applicant)

To,

_____ (Concerned Authority)

_____ (Name of the DISCOM)

_____ (Date)

Ref: Application No. _____ dated _____

Dear Sir,

With reference to above- mentioned Application number and receiving the Letter of Approval after the technical feasibility, I/we intend to install _____ KWp of RTSPV system vide letter No _____ dated _____. In this regards, I/we request DISCOM to provide a meter of class _____ for RTSPV installation. The meter shall be as per the Net/ Gross metering clause in Solar Rooftop Policy/Guidelines...

I/We agree to pay fee of INR _____ - as mentioned in DISCOM website via online mode/ DD _____ / cheque _____.

Name of Consumer/Sign

Assigning Meter (To be filled by the DISCOM)

_____ (Name of the Applicant)

_____ (Consumer No.)

Ref: Your Application No. _____ dated _____

1. Net meter of class _____ is available/ not available (tick (✓) appropriate) with DISCOM.
2. Appropriate meter will be sent by DISCOM test lab and shall be dispatched on the day of final check and synchronization of RTSPV system with the DISCOM's grid.
3. The DISCOM will issue test certificate to consumer prior to final checks and synchronization of the system. The Consumer has to submit test certificate along with Work Completion Report

Signature of Officer

Name and Designation of the Authorized Officer

Date

Stamp

Note: -

- a) Applicant must bring a copy of Letter of Approval.
- b) In case meter is not available with DISCOM it can be procured from external agency
- c) If meter is procured from outside agency, a letter intimating Meter No., Class and other specifications described as per CEA regulations, - shall be submitted to the DISCOM.

Format 4(a)
Request for Meter Testing
(To be filled by Applicant)

Date:

To

_____ (Concerned Authority)

_____ (Name of the DISCOM)

Ref: Application No. _____ dated _____

Dear Sir,

With reference to above-mentioned Application number and receiving the Letter of Approval after the technical feasibility, I/we intend to install _____ KWp of RTSPV system vide letter No _____ dated _____. In this regards, I/we have procured the meter from -----.

As per the clause _____ of meter testing of Solar Rooftop Policy/Guidelines, I request DISCOM to kindly test meter of specification -----.

I/We agree to pay fee of INR _____ as mentioned by the DISCOM for testing of meter through online mode/ DD _____ / cheque _____.

Name of Consumer/Signature

Application number

Format 4(b)
Intimation regarding Completion of Testing of Meter for Installation with RTSPV System
(To be filled by DISCOM)

_____ (Name of the Applicant)

_____ (Consumer No.)

Date

Ref: Application No. _____ dated _____

Dear Sir,

With reference to the above mentioned Application number and your letter dated _____, regarding testing of meter, hereby inform you that your meter with specification _____ is tested. The same will be installed after the synchronization check of the system.

Signature of Officer

Name and Designation of the Authorized Officer

Date

Stamp

Format 5
Work Completion Report
 (To be submitted by the Applicant)

To,

The Chief Electrical Inspector/ Electrical Inspector.....(Control Area)
 State Government (if RTSPV size is more than ----- KVA)

CC: Office of (Concerned) Executive Engineer, DISCOM

CC: State Nodal Agency, in case of subsidized consumers- -

Sub: Submission of work completion report

Ref: Your Application No.: _____ dated- _____

Dear Sir,

This is in reference to my Application number _____ for installation of RTSPV system, I/ We hereby confirm you that I/ we have completed the work of installation of the RTSPV system of capacity _____ and submit the following basic information for your perusal and request you to inspect and commission the system.

S. No.	Particulars	Information
A.	Details of the Solar PV module	
1.	Model No.	
2.	Name and address of manufacturer	
3.	Capacity of each Module (Wp)	
4.	No. of Modules	
5.	Total Capacity (kWp)	
6.	Date of Installation	
7.	Applicable Standard (BIS/IEC)	
B.	Details of the Inverter	
8.	Name and address of the inverter manufacturer	
9.	Brand Name of the inverter	

S. No.	Particulars	Information
10.	Model No.	
11.	AC capacity of individual inverter (kW)	
12.	No. of inverters installed	
13.	Total AC capacity of inverter (kW)	
14.	Serial Nos.	
15.	Date of Installation	
16.	Applicable Standard (BIS/IEC)	
C.	Details of the Cables: DC	
17.	Make / Name of manufacturer	
18.	Size & Type	
19.	Applicable Standard (IEC)	
D.	Details of the AC wiring	
20.	Make / Name of manufacturer	
21.	Size & Type	
22.	Applicable Standard (IEC)	
E.	Details of the DC distribution box	
23.	Make / Name of manufacturer	
24.	Sl. No.	
25.	DC Surge Protection Device	
26.	MCB /Isolator quantity & capacity	
27.	Size & Type	
28.	Applicable Standard (IEC)	
F.	Details of the AC distribution box	
29.	Make / Name of manufacturer	
30.	Sl. No.	
31.	AC Surge Protection Device	

S. No.	Particulars	Information
32.	MCB /MCCB quantity & capacity	
33.	Size & Type	
34.	Applicable Standard (IEC)	
G.	Details of the Earthing*	
35.	Earth resistance (shall be less than 2 ohms)	
36.	Size of the Earth wire / flat*	
37.	Two separate Earthing points	
	Modules & DC Surge arrester	Yes / No
	Inverter, AC Surge protection device & Lightning Arrester	Yes / No
38.	Size & Type	
39.	Applicable Standard (BIS/IEC)	
	Note: *Earthing shall be done in accordance IS 3043-1986, provided that Earthing conductors shall have a minimum size of 6 mm ² copper wire or 10 mm ² aluminum wire or 3 mm ² X 70 mm ² hot dip galvanized steel flat.	
H.	Details of meter, if purchased by consumer (please enclose the test report of the meter tested at the laboratory of the DISCOM)	
40.	Make	
41.	Serial No.	
42.	Capacity	
43.	Type / Model	
44.	Single ph./Three ph.	
45.	CT Ratio	
46.	Date of Test by MT, DISCOM	
47.	Applicable Standard (BIS/IEC)	
I.	Details of the Caution signage	
48.	Caution Signage	
J.	Provision of manual and automatic switches: Yes / No	

S. No.	Particulars	Information
49.	Manual/ Automatic Switches	
K.	G.P.S. Co-ordinates of the RTSPV System Installation	
50.	Latitude/ Longitude	
L.	Operation and Maintenance	
51.	Whether Operation and Maintenance Manual provided to the consumer: Yes/ No	

Standards Certificate/Standard Number BIS / IEC / etc. to be mentioned, wherever applicable

Certification:

I/ We Certify that the above said RTSPV system is installed and the equipment used in the system comply the Technical and Safety standards as specified in the regulations notified by the MNRE/ CEA/ SERC/ DISCOM, for the net/ gross metering of RTSPV systems.

Signature of the Applicant

Name and Signature of the System Installer

Name and Address with Seal

Name: _____

Name of the firm and address:

Date: _____

Date: _____

Enclosures:

1. Test report of net meter tested at the laboratory of the DISCOM.
2. Copy of the IEC/IS Test certificates of PV modules, Inverter, Cable etc.
3. Data sheets/Drawing for the array mounting System.
4. Actual Single line wiring diagram (SLD) of the SPV System.
5. Copy of Maintenance & Operation information manual provided by the System Installer
6. Copy of Interconnection Agreement

Format 6
Acceptance/ Rejection of Work Completion Report and Grid Synchronization Check

(To be filled by DISCOM)

To

_____ (Name of the Applicant)
_____ (Consumer no.)

Date: _____

Ref: Your Application no. _____ dated _____

Subject: Intimation of Acceptance/ Rejection of Work Completion Report and Grid Synchronization Check

This is in reference to your Application number _____, we hereby inform you that we have received your work completion report for the installed RTSPV system. Subsequent to that Grid Synchronization Check of the RTSPV system (Format B attached) installed on the roof of your premises _____, was done.

In response, the DISCOM confirms (Please tick ✓) -

- a. Acceptance of work completion report and grid synchronization check
- b. Rejection of work completion report and grid synchronization check

The report is rejected due to the following issues

- _____

After incorporating the above-mentioned queries, please inform within 15 days from the receipt of this letter. In case the revised report will not be submitted in the given period, your application shall be cancelled and paid fees, if any, shall not be refunded.

Signature of Officer

Name and Designation of the Authorized Officer

Date

Stamp

Enclosure: Format B

Format B

Guidelines for pre-commissioning check before and after connecting the RTSPV system with DISCOM Network and steps for maintenance of network where such connectivity exists

(For DISCOMs internal purpose only)

1. Mandatory safety precautions / features:

The following are mandatory safety precautions, which shall be taken care, before and after commissioning of grid connected Solar PV system.

- (a) An inbuilt Inverter relay which trips on DISCOM supply failure and prevent any solar power injection to the DISCOM Network when there is no power from DISCOM. The anti-islanding protection shall be tested during the release of connection.
- (b) The Solar PV system should be separately grounded / earthed. A minimum of two Separate dedicated and interconnected earth electrodes must be used for the earthing of the PV system support structure, with a total earth resistance not exceeding 5 ohms.
- (c) Lightning Arrestor also must be provided for SPV.
- (d) Manual isolator switch at an easily accessible location with locking facility shall be provided.
- (e) Caution Stickers shall be used with the green background and the text "Solar PV Systems" written in white letters. The size of these stickers shall be 10 CM (width) x 7 CM (height) with the text clearly printed in the center of the sticker. (applicable to only 50 kW and above)
- (f) All SPV consumers should have a mandatory sign board fitted near the existing meter reading terminal stating that 'This service is fitted with a LT grid connected SPV plant'. The Solar PV system Caution Stickers shall be fixed at the following locations. (applicable to only 50 kW and above)
 - i. On or near to meter of service with grid connected solar PV system;
 - ii. On The Consumer main switch, of a service connected with a grid connected Solar PV System;
 - iii. On LT poles with grid connected Solar PV Systems at height of about 1.50 meter from the ground;
 - iv. On LT feeder pillars with grid connected Solar PV System on the street-facing door of the feeder pillar.
 - v. On each of the LT take off poles of a Distribution Transformer to which Solar PV Systems are connected.
 - vi. On substation end of HT feeder having Solar PV System.
 - vii. A List of serviced connections of grid connected Solar PV Systems shall be available at the Division office and 33/11 KV S/S.
 - viii. A record may be maintained at the Division office of each SPV plant commissioning date and other details.

- ix. The SPV connected details of pole / pillar box /DT/ SS feeder end wise may be maintained at Division office.
- (f) During planned / forced maintenance work on DISCOMs network, before taking up the work in hand, besides ensuring all other provisions such as line earthing, de-energisation of the line section where the work is to carried out as per prevailing norms further it should be ensured that supply from such small solar roof-top PV power plants are not back feed and supply should also be disconnected by manual isolating switch with locking facility installed in the premises of such consumers and ensuring proper earthing.

2. The Check List before release of connection.

a) **Component Inspection Checklist:**

Sr. No.	Item type	Yes	No
1	Installation Layout – is it as per drawing? (Applicable only for 50 kW above)		
2	Inverter IS/ IEC standards qualified		
3	PV panel IS / IES standards qualified		
4	PV isolators / PV cables IS / IES standards qualified		
5	AC disconnect manual switch provided with locking arrangement		

b) **Grid connected Functional Safety Checklist:**

Sr. No.	Item type	Yes	No
1	Check whether solar generation stops automatically when DISCOM supply made off (inverter/PCU cut off)		
2	Bi-directional flow recorded on Net meter		
3	Solar Generation meter Ok?		
4	Check all Earthing points as per standard		
5	Solar and Bi-directional meter tested & sealed by DISCOM meter testing lab		
6	Check whether manual Isolating switch is installed at accessible location		
7	Check whether manual Isolating switch stops feeding supply in DISCOM network when in OFF position		

Format 7
Letter of Synchronization
(To be filled by the DISCOM)

To,

_____ (Name of the Applicant)

_____ (Consumer No)

Date

Ref: Your Application No. _____ dated _____

Sub: Completion of 1. Synchronization with the DISCOM Grid; 2. Installation of Meter(s); and 3. Commercial Date of Operation

Dear Sir

This is with reference to your above-mentioned Application number, synchronization test of RTSPV system of kWp, installed on the roof of your premises (address), has been conducted and your RTSPV system found satisfactory and successfully synchronized with the DISCOMs grid on date

Signature of Officer

Name and Designation of the Authorized Officer

Date

Stamp

Annexure 1
Solar Rooftop Photovoltaic Systems Application Register
(To be filled by DISCOM and maintained at sub-division level)

S No	Application			Consumer Number	Sanction Load/ Contract Demand (kW/ kVA/ HP)	Proposed RTSPV System Project Capacity (kWp) Name of the Applicant	DT Details	Technical Feasibility Report	Registration		Date of Agreement with the DISCOM	Chief Electrical Inspector/ Electrical Inspector Approval (if applicable)		Commissioning Approval		Date of Commissioning & Synchronize	Remarks	Waitlist Rank
	Number	Date					Available Capacity		Number	Date		Number	Date	Number	Date			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1																		
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