

MAHARASHTRA ELECTRICITY REGULATORY COMMISSION, MUMBAI

WHEREAS the Maharashtra Electricity Regulatory Commission have published in the Maharashtra Government Gazette on different dates the following, namely:-

Maharashtra Electricity Regulatory Commission (MERC), (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015;
(Notification No. : No. MERC / Legal /2015 / 639, Dated: 10.09.2015)

A. Maharashtra Electricity Regulatory Commission (MERC), (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015, (First Amendment), 2017;
(Notification No. : MERC/Legal/2017/3972, Dated: 21.07.2017)

- Inserted/ Replaced matter is shown as [J^D at appropriate place; wordings inserted/ replaced shown within square brackets;
 - In both of above cases; -^D ; superscript D implies that change is caused by Amendment '4';
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ELECTRICITY ACT, 2003.

Maharashtra Electricity Regulatory Commission (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015

ELECTRICITY ACT, 2003

No. MERC / Legal /2015 / 639.—In exercise of the powers conferred under Sections 86(1) (e) and 181 of the Electricity Act, 2003 (36 of 2003) and all other powers enabling it in this behalf, and after previous publication, the Maharashtra Electricity Regulatory Commission hereby makes the following Regulations, namely :—

1. Short title, extent and commencement

1.1 These Regulations may be called the Maharashtra Electricity Regulatory Commission (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015.

1.2 These Regulations shall extend to the whole of the State of Maharashtra.

1.3 These Regulations shall come into force from the date of their publication in the Official Gazette.

2. Definitions

2.1 In these Regulations, unless the context otherwise requires,

(a) “Act” means the Electricity Act, 2003 (36 of 2003) ;

(b) “Billing Cycle” or “Billing Period” means the period for which the electricity bill is raised by the concerned Distribution Licensee ;

(c) “Commission” means the Maharashtra Electricity Regulatory Commission constituted under the Act;

(d) “Consumer” means a consumer as defined in the Act ;

(e) “Contract Demand” means the demand in kilowatt (‘kW’) or kilovolt ampere (‘kVA’) or Horse Power (‘HP’), as mutually agreed between the Distribution Licensee and the consumer, and as entered into in an agreement in which the Distribution Licensee makes a commitment to supply in accordance with the terms and conditions contained therein ; or equal to the Sanctioned Load, where the Contract Demand has not been provided in such agreement ;

(f) “Electricity Supply Code” means the Electricity Supply Code specified by the Commission under Section 50 of

the Act ;

(g) “Eligible Consumer” means a consumer of electricity in the area of supply of the Distribution Licensee who uses or intends to use a Solar Photo Voltaic (‘PV’) ~~generating~~^{A1} ~~System~~^A having a capacity less than 1 MW, installed on a roof-top or any other mounting structure in his premises, to meet all or part of his own electricity requirement, and includes a Consumer catering to a common load such as a Housing Society :

Provided that such generating System may be owned and/or operated by such Consumer, or by a third party leasing such System to the Consumer.

(h) “Inter-connection Point” means the interface of the Solar PV System with the outgoing terminals of the meter / Distribution Licensee’s cut-outs/ switchgear fixed in the premises of the Eligible Consumer :

Provided that, in the case of an Eligible Consumer connected at the High Tension (‘HT’) level, the ‘inter-connection point’ shall mean the interface of the Solar PV System with the outgoing terminals of the Distribution Licensee’s metering cubicle placed before such Consumer’s apparatus.

(i) “Invoice” means a Monthly Bill or Supplementary Bill, or Monthly Invoice or Supplementary Invoice, as the case may be, raised by the Distribution Licensee ;

(j) “Net Meter” means an energy meter as defined in the Electricity Supply Code which is also capable of recording both the import and export of electricity, or a pair of energy meters, one for recording the import and the other for recording the export of electricity, as the case may be;

(k) “Net Metering Arrangement” means an arrangement under which a Roof-top Solar PV System with Net Meter installed at an Eligible Consumer’s premises delivers surplus electricity, if any, to the Distribution Licensee after setting off the quantum of electricity supplied by such Licensee during the applicable Billing Period ;

(l) “Net Metering Connection Agreement” means an agreement entered into by a Distribution Licensee and an Eligible Consumer for executing a Net Metering arrangement ;

(m) “Obligated Entity” means an entity required to fulfill a Renewable Purchase Obligation (‘RPO’) as specified by the Commission in Regulations governing such Obligation (‘the RPO Regulations’) ;

(n) “Premises” means and includes roof-tops or any areas on the land, building or infrastructure or part or combination thereof in respect of which a separate meter has been provided by the Distribution Licensee for the supply of electricity ;

^{A2}(na) “Renewable Energy” means the grid quality electricity generated from Renewable Energy sources, including a combination of such sources.^A

~~(o) “Roof top Solar PV System” means the Solar Photo Voltaic power System installed on a Consumer’s premises, and owned and/or operated by such Consumer or by a third party, that uses sunlight for direct conversion into electricity through Photo Voltaic technology ;~~

^{A3}(o) “Renewable Energy sources” means the renewable sources or combination of such sources, such as Mini, Micro and Small Hydro, Wind, Solar, Biomass including bagasse, bio-fuel, urban or Municipal Solid Waste as defined in the Maharashtra Electricity Regulatory Commission (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2015, and such other sources as are recognized or approved by the Ministry of New and Renewable Energy, Government of India.^A

(p) “Renewable Energy Certificate” means the Certificate issued in accordance with the procedures specified by the Central Electricity Regulatory Commission ;

^{A4}(pa) “Renewable Energy Generating System” means the Renewable Energy power system installed on a Consumer’s premises, and owned and/or operated by such Consumer or by a third party, that uses Renewable Energy for conversion into electricity.^A

(q) “Settlement Period” means the period beginning from the first day of April of a calendar year and ending with the thirty-first day of March of the following calendar year.

2.2. Words and expressions used in these Regulations which are not specifically defined herein but are defined in the Act shall have the meaning assigned to them in the Act; and, if not defined in the Act, shall have the meaning assigned to them in any Act of Parliament or the State Legislature applicable to the electricity industry.

¹ Modified wording of clause (g) of Regulation (g), vide First amendment (A), 2017

² Inserted a new sub-clause (na) after clause (n) in Regulation 2, vide First amendment (A), 2017

³ Modified clause (o) of Regulation 2, vide First amendment (A), 2017

⁴ Inserted a new sub-clause (pa) after clause (p) in Regulation 2, vide First amendment (A), 2017

PART A - GENERAL

3. *General Conditions of Net Metering arrangement*

3.1. Net Metering arrangement shall be permitted by the Distribution Licensee on a non-discriminatory and 'first come, first serve' basis to Eligible Consumers who have installed or intend to install a Roof-top Solar PV System connected to the Network of such Distribution Licensee :

Provided that the inter-connection of such System with the Network of the Distribution Licensee is undertaken in accordance with the standards and norms specified in the Central Electricity Authority (CEA) (Technical Standard for Connectivity of the Distributed Generation Resources) Regulations, 2013 or as may be specified in future.

3.2. Priority for such connectivity to the Network of the Distribution Licensee shall be accorded to consumers who have installed Roof-top Solar PV Systems before the commencement of these Regulations, subject to their compliance.

4. *Capacity limits at Distribution Transformer level*

4.1. The Distribution Licensee shall allow Net Metering Arrangement to Eligible Consumers as specified in these Regulations :

Provided that the cumulative capacity of all Roof-top Solar PV Systems under Net Metering Arrangements connected to a particular Distribution Transformer of the Licensee shall not exceed 40% of its rated capacity :

Provided further that the Distribution Licensee may allow Net Metering connectivity exceeding 40% of such rated capacity upon consideration of a detailed load study carried out by it.

4.2. The Distribution Licensee shall provide information on its website regarding the capacity available on each Distribution Transformer for connecting Roof-top Solar PV Systems under Net Metering arrangements within three months from the notification of these Regulations. The Distribution Licensee shall thereafter update the Distribution Transformer-wise capacity available and the cumulative capacity of the Roof-top Solar PV Systems installed under Net Metering arrangements quarterly, and provide the information on its website in the month following the close of the relevant quarter.

PART B - TECHNICAL ARRANGEMENTS

5. *Eligible Consumer and individual Project capacity*

5.1. The capacity of the Roof-top Solar PV System to be connected at the Eligible Consumer's premises shall not exceed his Contract Demand (in kVA) or Sanctioned load (in kW) :

Provided that the maximum Roof-top Solar PV System capacity to be installed at an Eligible Consumer's premises shall be subject to the cumulative capacity of the relevant Distribution Transformer which has already been utilized, as specified in Regulation 4.1 :

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

5.2. The capacity limits for the connectivity of a Roof-top Solar PV System to the Network of the Distribution Licensee shall be as specified in Regulation 5.3 of the MERC (Standards of Performance of Distribution Licensee, Period of giving Supply and Determination of Compensation) Regulations, 2014, which are presently as follows, or as may be specified in

future:-

Sr. No. (1)	AC Voltage level at which Roof-top Solar PV System is to be connected to the Distribution Network (2)	Maximum limit for Roof-top Solar PV System (3)
1.	230/240 V (Single Phase)	Less than 8 kW/40 A
2.	400/415 V (Three Phase)	Less than 150kW/187 kVA (in Municipal Corporation areas) Less than 80kW/100 kVA (in other areas)
3.	11kV and above	Above 150kW/187 kVA and less than 1000 kVA (in Mumbai Metropolitan Region)

	Above 80kW/ 100 kVA and less than 1000 kVA (in other areas)
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5.3. These norms shall apply only to Roof-top Solar PV Systems which seek connectivity with the Networks of the Distribution Licensees.

5.4. HT (11 kV and above) Consumers may install and connect Roof-top Solar PV System at their LT Bus Bar System :

Provided that, in such cases, the Net Meter shall be installed on the HT side of the Transformer.

5.5. An Eligible Consumer may install or enhance the capacity of, or upgrade the Roof-top Solar PV Systems at different locations within the same premises :

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

6. *Inter-connection with the Distribution Network / Grid, Standards and Safety*

6.1 The Distribution Licensee shall ensure that the inter-connection of the Roof-top Solar PV System with its Network conforms to the specifications, standards and other provisions specified in the CEA (Technical Standard for Connectivity of the Distributed Generation Resources) Regulations, 2013, the CEA (Measures relating to Safety and Electric Supply), Regulations, 2010 and the Maharashtra Electricity Regulatory Commission (State Grid Code) Regulations, 2006, or as may be specified in future.

6.2 The Eligible Consumer may install a Roof-top Solar PV System with or without battery back-up :

Provided that, if an Eligible Consumer opts for connectivity with a battery back-up, the inverter shall have a separate back-up wiring to prevent the battery/ decentralized generation (DG) power from flowing into the grid in the absence of grid supply, and that an automatic as well as manual isolation switch shall also be provided.

6.3 The Eligible Consumer shall be responsible for the safe operation, maintenance and rectification of any defect in the Roof-top Solar PV System upto the point of Net Meter, beyond which point such responsibility, including in respect of the Net Meter, shall be that of the Distribution Licensee :

Provided that the ~~Solar Generation Meter~~⁵ Renewable Energy Generation Meter^A specified in Regulation 7.4 shall be maintained by the Distribution Licensee.

The Eligible Consumer shall provide appropriate protection for islanding of the Roof-top Solar PV System from the Network of the Distribution Licensee in the event of grid or supply failure.

The Distribution Licensee shall have the right to disconnect the Roof-top Solar PV System from its Network at any time in the event of any threat of accident or damage from such System to its distribution system so as to avoid any accident or damage to it :

Provided that the Eligible Consumer may use his Roof-top Solar PV System in islanding mode for his own consumption.

6.6. The Distribution Licensee and Eligible Consumer shall discharge their respective roles and responsibilities as specified in the relevant Regulations of the Central Electricity Authority.

7. *Metering Arrangements*

7.1 The Net Metering Arrangement shall include a single-phase or a three-phase Net Meter, as may be required, located at the point of inter-connection as ascertained by the Distribution Licensee.

7.2 The Net Meter shall conform to the standards specified by the CEA for installation and operation of meters.

7.3 The Net Meter in the premises of the Eligible Consumer shall be procured and installed by the Distribution Licensee at its own cost and in accordance with the provisions of the Electricity Supply Code :

Provided that, if the Eligible Consumer is within the ambit of Time-of-Day ('ToD') Tariff, the Net Meter installed shall be capable of recording ToD consumption and generation :

Provided further that the Distribution Licensee shall replace the meter of an existing Eligible Consumer with a Net

⁵ Wordings Solar Energy Meter replaced with Renewable Energy Generation Meter, vide First amendment (A), 2017

Meter :

Provided also that the Eligible Consumer may opt to procure, at his cost, the Net Meter for testing and installation by the Distribution Licensee.

7.4. The Distribution Licensee shall be responsible for the supply, installation, testing and maintenance of the metering equipment, and its adherence to the applicable standards and specifications.

7.5 The Eligible Consumer shall install, at his own cost, a ~~Solar Generation Meter~~ [Renewable Energy Generation Meter] conforming to the applicable CEA Regulations at an appropriate location to measure the energy generated from the Roof-top Solar PV system, if he is an Obligated Entity and desires that such energy be counted towards meeting its RPO.

7.6 The Distribution Licensee shall install, at its own cost and with the consent of the Eligible Consumer, a ~~Solar Generation Meter~~ [Renewable Energy Generation Meter] conforming to the applicable CEA Regulations at an appropriate location to measure the energy generated from the Roof-top Solar PV System if it desires that such energy be counted towards meeting its RPO.

7.7 The ~~Solar Generation Meter~~ [Renewable Energy Generation Meter] shall be maintained by the Distribution Licensee at its cost.

7.8 The Net Meter and the ~~Solar Generation Meter~~ [Renewable Energy Generation Meter] shall be installed at such locations in the premises of the Eligible Consumer as would enable easy access to the Distribution Licensee for meter reading.

8. *Procedure for Application and Registration*

8.1 The Eligible Consumer shall apply to the concerned Distribution Licensee for connectivity of the Roof-top Solar PV System with the Licensee's Network along with a registration fee of Rs. 500 (five hundred) and Rs. 1,000 (one thousand) for Consumers with Sanctioned Load or Contract Demand, as the case may be, upto and above 5 kW, respectively, or such other amount as may be stipulated by the Commission from time to time; and the Distribution Licensee shall acknowledge receipt of such application:

Provided that the Distribution Licensees shall provide the option of making such application and payment of fees by electronic means online within two months from the date of publication of these Regulations.

8.2 The procedure for application for connectivity of a Roof-top Solar PV System with the Network of the Distribution Licensee is set out at Annexure 1 of these Regulations. The model Form, along with check-list, for application to be made by the Eligible Consumer to the concerned Licensee is at Annexure 2.

8.3 Before rejecting any application for setting up a Roof-top Solar PV System at a particular Distribution Transformer, the Distribution Licensee shall serve the applicant with a notice to rectify, within 15 days or such longer period as may be necessary, the deficiencies. In case approval cannot be granted due to inadequate Distribution Transformer capacity, the application may be considered, in chronological order of seniority and if the consumer so opts, after such capacity becomes available.

9. *Net Metering Connection Agreement*

9.1 The Distribution Licensee and Eligible Consumer shall enter into a Net Metering Connection Agreement after approval of connectivity of the Roof-top Solar PV System with the distribution Network but before the start of actual generation from the System.

9.2 A model Net Metering Connection Agreement, which the Distribution Licensee may modify suitably subject to consistency with these Regulations, is provided at Annexure 3.

9.3 The Distribution Licensee shall make available the Agreement format, along with the applicable procedure and Application and other relevant forms, on its website and also at its local offices within two months of notification of these Regulations.

9.4 The Agreement shall remain in force for twenty years:

Provided that the Eligible Consumer may terminate the Agreement at any time by giving 30 days' notice to the Distribution Licensee;

Provided further that the Distribution Licensee may terminate the Agreement by giving 30 days' notice if the Eligible Consumer breaches any term of the Agreement and does not remedy such breach within 30 days, or such other longer period as

may be provided, of receiving notice from the Licensee of such breach, or for any other valid reason to be communicated in writing;

Provided also that the Agreement may be terminated at any time by mutual consent.

9.5 The Eligible Consumer shall, upon termination of the Agreement, disconnect forthwith its Roof-top Solar PV System from the Distribution Licensee's Network.

PART C - COMMERCIAL ARRANGEMENTS

10. *Energy Accounting and Settlement*

10.1. The accounting of electricity exported and imported by the Eligible Consumer shall become effective from the date of connectivity of the Roof-top Solar PV System with the distribution Network.

10.2. For each Billing Period, the Distribution Licensee shall show separately :-

- (a) the quantum of electricity Units exported by the Eligible Consumer ;
- (b) the quantum of electricity Units imported by the Eligible Consumer ;
- (c) the net quantum of electricity Units billed for payment by the Eligible Consumer ; and
- (d) the net quantum of electricity Units carried over to the next Billing Period :

Provided that, if the quantum of electricity exported exceeds the quantum imported during the Billing Period, the excess quantum shall be carried forward to the next Billing Period as credited Units of electricity;

Provided further that, if the quantum of electricity Units imported by the Eligible Consumer during any Billing Period exceeds the quantum exported, the Distribution Licensee shall raise its invoice for the net electricity consumption after adjusting the credited Units.

10.3. The unadjusted net credited Units of electricity as at the end of each financial year shall be purchased by the Distribution Licensee at its Average Cost of Power Purchase as approved by the Commission for that year, within the first month of the following year:

Provided that, at the beginning of each Settlement Period, the cumulative quantum of injected electricity carried forward will be re-set to zero.

10.4 In case the Eligible Consumer is within the ambit of ToD tariff, the electricity consumption in any time block, i.e. peak hours, off-peak hours, etc., shall be first compensated with the quantum of electricity injected in the same time block. Any excess injection over and above the consumption in any other time block in a Billing Cycle shall be accounted as if the excess injection had occurred during off-peak hours.

10.5 The Distribution Licensee shall compute the amount payable to the Eligible Consumer for the excess solar energy purchased by it as specified in Regulation 10.3, and shall provide credit equivalent to the amount payable in the immediately succeeding Billing Cycle.

10.6 The Eligible Consumer shall have recourse, in case of any dispute with the Distribution Licensee regarding billing, to the mechanism specified by the Commission under Sections (5) to (7) of the Act for the redressal of grievances.

11. *Solar Renewable Purchase Obligation*

11.1 The quantum of electricity consumed by the Eligible Consumer from the Roof-top Solar PV System under the Net Metering Arrangement shall qualify towards his compliance of Solar RPO, if such Consumer is an Obligated Entity.

11.2 The quantum of electricity consumed by the Eligible Consumer from the Roof-top Solar PV System under the Net Metering arrangement shall, if such Consumer is not an Obligated Entity, qualify towards meeting the Solar RPO of the Distribution Licensee :

Provided that the Distribution Licensee shall, with the consent of the Eligible Consumer, make all the necessary arrangements, including for additional metering, as may be required for the accounting of the Solar energy generated and consumed by the Eligible Consumer.

11.3. The unadjusted surplus Units of Solar energy purchased by the Distribution Licensee under the provisions of Regulation 10.3 shall qualify towards meeting its Solar RPO.

12. *Eligibility under Renewable Energy Certificate mechanism*

The Solar energy generated by an Eligible Consumer in a Net Metering Arrangement under these Regulations shall not be eligible for REC.

PART D

13. *Power to Relax*

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

14. *Issue of Orders and Practice Directions*

Subject to the provisions of the Act, the Commission may from time to time issue Orders and Practice Directions with regard to the implementation of these Regulations.

15. *Power to amend*

The Commission may, at any time, vary, alter, modify or amend any provisions of these Regulations, for reasons to be recorded in writing.

16. *Power to remove difficulties*

If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by general or specific Order, make such provisions not inconsistent with the provisions of the Act as may appear to it to be necessary for removing such difficulty.

ANNEXTURE-1

Procedure for Application for connectivity of Roof-top Solar PV System with Distribution Licensee's Network

(a) A consumer intending to set up a Roof-top Solar Net Metering System or who has already installed such a System may download the Application Form from the concerned Distribution Licensee's website and submit it, duly filled, along with technical details of the System to the concerned office of the Distribution Licensee along with registration fee, or apply and pay the fee online.

(b) The Distribution Licensee shall register the Application and acknowledge its receipt within three working days; or intimate the Applicant within that period of any deficiency or incompleteness.

(c) The Distribution Licensee shall conduct a technical feasibility study within 15 working days from the registration of the Application considering the following aspects :-

- (i) AC Voltage level at which connectivity is sought;
- (ii) Sanctioned Load / Contract Demand of the Applicant;
- (iii) Rated Output AC Voltage of the proposed Roof-top Solar PV System;
- (iv) Available cumulative capacity of relevant Distribution Transformer;

(d) Before rejecting any application for setting up a Roof-top Solar PV System at a particular Distribution Transformer, the Distribution Licensee shall serve the Applicant with a notice to rectify, within 15 days or such longer period as may be necessary, the deficiencies.

(e) If found technically feasible, the Distribution Licensee shall, within 7 working days of the completion of the feasibility study, convey its approval for installing the Roof-top Solar PV System. The approval shall indicate the maximum permissible capacity of the System, and shall be valid for a period of 6 months from the date of approval, or such extended

period as may be agreed to by the Distribution Licensee.

(f) The Applicant shall, within the period of validity of such approval, submit the work completion report, along with relevant details (such as technical specifications, test reports received from manufacturer / system provider, etc.), with a request to the Distribution Licensee for the testing and commissioning of the Roof-top Solar PV System.

(g) The Distribution Licensee shall complete the testing and commissioning of the System within 10 working days from receipt of such request, and shall install the Net Metering equipment and synchronise the Roof-top Solar PV System within 10 working days thereafter.

(h) The Eligible Consumer and Distribution Licensee shall enter into a Net Metering Connection Agreement in the prescribed format after the Roof-Top Solar PV System is installed but before it is synchronized with the distribution Network.

Mumbai,

Dated 10th September 2015.

ASHWANI KUMAR,
Secretary,

Maharashtra Electricity Regulatory Commission