

MAHARASHTRA ELECTRICITY REGULATORY COMMISSION

EXPLANATORY MEMORANDUM ON

DRAFT MAHARASHTRA ELECTRICITY REGULATORY COMMISSION (GRID INTERACTIVE ROOFTOP RENEWABLE ENERGY GENERATING SYSTEMS) REGULATIONS, 2019

October, 2019

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

|--|

<u>1</u>	INTRODUCTION
1.1	BACKGROUND & REGULATORY FRAMEWORK
<u>2</u>	GENERAL PRINCIPLES5
2.1	OBJECTIVES
2.2	NAME OF REGULATIONS
2.3	DEFINITIONS
2.4	SCOPE AND APPLICABILITY
2.5	GENERAL CONDITIONS OF NET METERING ARRANGEMENT AND NET BILLING
AR	RANGEMENT
2.6	CAPACITY LIMITS AT DISTRIBUTION TRANSFORMER LEVEL
<u>3</u>	TECHNICAL ARRANGEMENTS
3.1	ELIGIBLE CONSUMER AND INDIVIDUAL PROJECT CAPACITY
3.2	INTER-CONNECTION WITH THE DISTRIBUTION NETWORK / GRID, STANDARDS AND SAFETY
	14
3.3	METERING INFRASTRUCTURE16
3.4	
3.5	CONNECTION AGREEMENT19
<u>4</u>	COMMERCIAL ARRANGEMENTS
4.1	NET METERING – ENERGY ACCOUNTING AND SETTLEMENT
4.2	NET BILLING – ENERGY ACCOUNTING AND SETTLEMENT
4.3	ENERGY ACCOUNTING DURING METER DEFECT/FAILURE/BURNT
4.4	RENEWABLE PURCHASE OBLIGATION
4.5	ELIGIBILITY UNDER RENEWABLE ENERGY CERTIFICATE MECHANISM

1 Introduction

1.1 Background & Regulatory Framework

As per Section 86 (1) (e) of the Electricity Act, 2003 ("EA 2003" or "the Act"), the State Electricity Regulatory Commissions ("SERCs" or "Commissions") have been assigned the function of promoting generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person. The Maharashtra Electricity Regulatory Commission ("MERC" or "the Commission") has notified the MERC (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2015 ("MERC RE Tariff Regulations") in November 2015 and the MERC (Renewable Purchase Obligation, its Compliance and Implementation of Renewable Energy Certificate Framework) Regulations, 2016 ("MERC RPO Regulations") in March 2016, in order to promote generation from Renewable Energy (RE) sources in the State of Maharashtra.

In 2014, the Government of India (GoI) set an ambitious target to achieve 40 GW of cumulative installed capacity of Grid Connected Rooftop Solar PV (GRPV) systems by 2022. In order to achieve this ambitious target, a strategic combination of Top-Down impetus and Bottom-Up execution approach was initiated, in which GoI, in partnership with the State Governments and Commissions, adopted a number of measures to promote the rooftop solar sector. The Commission also notified the MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 ("MERC Net Metering Regulations, 2015") in September 2015. The Commission notified the first amendment to the MERC Net Metering Regulations, 2015 in July 2017, and extended the scope of the Regulations to all grid connected Renewable Energy Generating systems.

In Maharashtra, based on the above framework, till December 2018, around 266 MW of GRPV systems have been installed, across the licence area of different Distribution Licensees, with Maharashtra State Electricity Distribution Company Ltd. (MSEDCL) having the bulk of these connections, at around 226 MW. However, the new changes in the market scenario pose limitations on the present Regulations, coupled with several implementation challenges. The present regulatory framework is focused on self-consumption, and higher installation levels of GRPV systems is mainly by the commercial and industrial consumers, whose retail tariffs are much higher than the cost of energy delivered by GRPV systems.

The prices of GRPV systems are showing decreasing trends whereas the retail tariff is expected to increase year-on-year. Therefore, at this stage, promotion of GRPV system in India should be encouraged due to its commercial attractiveness. More incentives need to be given to Grid Connected RE installations by the Residential category, which will help to boost the capacity installed. From the point of view of DISCOMs, increased GRPV penetration may result in loss

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019 of revenue derived from sales to subsidising categories, and other consumers might have to bear the burden for compensating the DISCOMs. The variability of solar generation might also puts grid stability at risk and may pose challenges to the SLDC when more and more GRPV projects are connected to the grid.

Hence, there is a need to modify and balance the regulatory framework to facilitate scaling up to the next level of GRPV installation, in order to achieve the national target of 40 GW by FY 2021-22, of which Maharashtra will have to achieve a significant share. The Forum of Regulators (FOR) has also published the "Report on Metering Regulation and Accounting Framework for Grid Connected Rooftop Solar PV In India" in April 2019, and recommended the revised framework and Model Regulations.

Considering the above developments, the Commission has formulated the draft MERC (Grid Interactive Rooftop Renewable Energy Generating Systems) Regulations, 2019 (hereinafter referred as "draft Grid Connected RRE Regulations, 2019). As stated earlier, while formulating the draft Grid Connected RRE Regulations, 2019, the Commission has been guided by the FOR Model Regulations, 2019, relevant Regulations of this Commission and other SERCs, etc., as well as Petitions filed by different entities seeking modifications in the MERC Net Metering Regulations, 2015.

The Commission has proposed modifications to certain clauses vis-à-vis the clauses specified in the MERC Net Metering Regulations, 2015 (as amended from time to time) based on the experiences in implementation of the MERC Net Metering Regulations, 2015 over the previous four years, and in order to simplify/clarify/amend certain provisions as considered reasonable. The rationale for the changes proposed in the MERC Net Metering Regulations have been elaborated in this Explanatory Memorandum. In cases where no change is proposed, the same has not been explicitly mentioned. Generally, only the clauses where any addition/modification is proposed in the MERC Grid Connected RRE Regulations, 2019 have been discussed in this Explanatory Memorandum.

The Commission while formulating draft MERC Grid Connected RRE Regulations, 2019, has endeavoured to balance the interest of consumers and Distribution Licensees. Based on the analysis, possible regulatory options have been discussed in subsequent Chapters.

The Explanatory Memorandum is organised in the following Chapters:

- Chapter 1: Introduction
- Chapter 2: General Principles
- **Chapter 3**: Technical Arrangements
- Chapter 4: Commercial Arrangements

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

2 General Principles

2.1 Objectives

This Chapter of the Explanatory Memorandum elaborates the General Principles for formulation of the MERC Grid Interactive RRE Regulations, 2019.

2.2 Name of Regulations

The existing MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 specified the regulatory framework exclusively for Net Metering and exclusively for grid connected co-located Solar PV installations. The amendment of the Regulations in 2017 extended the scope of the Regulations to all grid connected co-located RE generating systems, however, the name of the Regulations was not changed, as it was an amendment to the Regulations.

In the draft MERC Grid Connected RRE Regulations, 2019, the Commission has specified that these Regulations shall be applicable for Net Metering and Net Billing as well as RE generating systems connected behind the Consumer's meter but not interacting with the Grid. Hence, in order to reflect the true nature of the Regulations, the name of the Regulations is proposed to be changed to *"MERC (Grid Interactive Rooftop Renewable Energy Generating Systems) Regulations, 2019"*.

2.3 Definitions

The Commission, in the draft Grid Connected RRE Regulations, 2019 has modified some definitions and also added some definitions, as under:

 The Commission has added the definition of "Banked Energy", as the generation of the RRE generating station upto 300 units in excess of the consumption of the Consumer from the Distribution Licensee in the billing period, is proposed to be treated as Banked Energy:

"(b) "Banked Energy" means the surplus Renewable Energy generated and credited with the Distribution Licensee after set off with consumption in the same Time of Day slot, if applicable;"

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

2. The Commission has added the definition of "Check Meter", for greater clarity, as installation of Check Meters has been made mandatory for certain cases and optional for other cases:

"(d) "Check Meter" means a meter, used for accounting and billing of electricity in case of failure of Net Meter or Renewable Energy Generation Meter;"

- 3. The Commission has modified the definition of "Eligible Consumer" as under:
 - a. added a proviso to reflect the dispensation for Net Billing, wherein the limit of 1 MW is not applicable;
 - b. modified the definition slightly to reflect the scope for Net Billing, wherein it is not necessary that the Consumer consume any electricity in a particular billing period;
 - c. added scope for the Distribution Licensee to set up the RE generating system at the consumers premises, while acting as a RESCO:

"(i) "Eligible Consumer" means a consumer of electricity in the area of supply of the Distribution Licensee who uses or intends to use a Renewable Energy Generating System 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 or no 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 Distribution Licensee or third party leasing such System to the Consumer: Provided further that in case of Net Billing Arrangement, the capacity limit of 1 MW shall not apply;"

4. The Commission has added the definition of "Generic Tariff" for greater clarity, as the same is the reference rates for purchase of Banked Energy and purchase under Net Billing arrangement by the Distribution Licensee from the Consumer:

"(j) "Generic Tariff" means the Generic Tariff approved or adopted by the Commission for generation from different Renewable Energy sources in accordance with the Maharashtra Electricity Regulatory Commission (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2015, or as amended from time to time;"

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

 The Commission has added the definition of "Net Billing Arrangement" for facilitating the Net Billing Arrangement specified under the draft MERC Grid Connected RE Regulations, 2019:

"(n) "Net Billing Arrangement" means an arrangement under which energy generated by Renewable Energy Generating System is purchased by the Distribution Licensee and the Distribution Licensee raises the bills on the consumer for his consumption at the approved grid tariff, after giving credit for total generated electricity against a pre-determined tariff;"

6. The Commission has added the definition of "Net Billing Connection Arrangement" for facilitating the Net Billing Arrangement specified under the draft MERC Grid Connected RE Regulations, 2019:

"(o) "Net Billing Connection Agreement" means an agreement entered into by a Distribution Licensee and an Eligible Consumer for executing a Net Billing arrangement;

7. The definition of "Net Meter" has been modified slightly to reflect the requirement of bidirectional meter:

"(*p*) "Net Meter" means a bi-directional energy meter, which is capable of recording both the import and export of electricity, or a pair of energy meters;"

8. The Commission has modified the definition of "Renewable Energy Generation System" under the draft MERC Grid Connected RE Regulations, 2019, to provide scope for the Distribution Licensee to set up the RE generating system at the consumers premises, while acting as a RESCO:

"(w) "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 Distribution Licensee or a third party, that uses Renewable Energy for conversion into electricity;"

9. The Commission has added the definition of "Renewable Energy Generation Meter" under the draft MERC Grid Connected RE Regulations, 2019, with a proviso that a separate meter shall have to be installed for each source of RE in case of hybrid or combination of such sources, as the RPO target is different, as under:

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

"(x) "Renewable Energy Generation Meter" means an energy meter used for measuring the energy generated by the Renewable Energy Generating System for the purpose of accounting and billing:

Provided that a separate Renewable Energy Generation Meter shall be installed for each source of Renewable Energy in case of hybrid or combination of such sources; "

2.4 Scope and Applicability

In the draft MERC Grid Connected RRE Regulations, 2019, the Commission has specified that these Regulations shall be applicable for Net Metering and Net Billing as well as RE generating systems connected behind the Consumer's meter. This has been clarified by incorporating the Scope and Applicability of the Regulations, as under:

"3. Scope and Applicability

These Regulations would apply to:

- (a) Net Metering Arrangements;
- (b) Net Billing Arrangements;

(c) Renewable Energy Generating Systems connected behind the Consumer's meter."

2.5 General Conditions of Net Metering Arrangement and Net Billing Arrangement

The existing MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 specified the General Conditions exclusively for Net Metering. However, the draft MERC Grid Connected RRE Regulations, 2019, shall be applicable for Net Metering and Net Billing as well as RE generating systems connected behind the Consumer's meter. Hence, the Commission has proposed the General Conditions of Net Metering Arrangement with some changes and the General Conditions of Net Billing Arrangement in the draft MERC Grid Connected RRE Regulations, 2019.

As discussed earlier, the present regulatory framework is focused on self-consumption, and higher installation levels of GRPV systems is mainly by the commercial and industrial consumers.

More incentives need to be given to Grid Connected RE installations by the Residential category, which will help to boost the capacity installed. Further, increased penetration of Grid Connected RE installations may result in loss of revenue derived from sales to subsidising

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

categories, and other consumers might have to bear the burden for compensating the DISCOMs.

The FOR, in its Meeting held on 13 November, 2018, has deliberated the Model Regulations / Report and recommended as follows:

"After deliberations, the Forum endorsed the Model Regulations and Report subject to the following modifications in the Report and Regulations:

a. Focus should be on Roof Top installations and their treatment.

b. Net billing concept will be adopted for the Roof top.

c. The treatment of Distributed Energy Resources (other than rooftop) should be studied further and presented to the FOR."

Thus, FOR has recommended to change the existing Net Metering system to Net Billing system for all categories.

Further, the GoI in the recently announced "Implementation Phase II of the Grid Connected Rooftop Solar Program for achieving 40 GW capacity by the year 2022", has increased the focus on Residential category and announced Central Financial Assistance (CFA) to the Residential category and has stated that CFA will not be available for other categories, i.e., institutional, educational, social, government, commercial and industrial sectors as the beneficiaries in these sectors are high tariff paying consumers. The GoI has announced the following CFA for the Residential sector:

Type of residential sector	CFA (as percentage of benchmark cost or cost discovered through competitive process whichever is lower)
Residential sector (up to 3 kW capacity)	40 % of benchmark cost**
Residential sector (>3 kW <10 kW capacity)*	40~% up to 3 KW + $~20%$ for system above 3 kW and up to 10 kW
Group Housing for common facilities up to 500 kWp (@10 kWp per house), with the upper limit being inclusive of individual rooftop plants already installed	20 %

Notes:

*The residential sector users may install RTS plant of even higher capacity as provisioned by respective State electricity regulations; however, the CFA will be limited up to 10 kWp capacity of RTS plant.

** Benchmark cost may be different in General Category States/UTs and Special Category States/UTs i.e., North Eastern States including Sikkim, Uttarakhand, Himachal Pradesh, Jammu & Kashmir, Lakshadweep, and Andaman & Nicobar Islands. CFA shall be on benchmark cost of MNRE for the state/ UT or lowest of the costs discovered in the tenders for that state/ UT, whichever is lower

Considering the above, the Commission has proposed to continue Net Metering Arrangement for the Residential category of consumers in the draft MERC Grid Connected RRE

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019 Regulations, 2019, with special focus on the small and low-end consumption levels in this category.

The Commission has decided to promote the Net Billing Arrangement for all other categories for setting up the Renewable Energy Generating System. While doing so, the Commission will ensure that rate for purchase of energy by Distribution Licensee under Net Billing Arrangement will be set in a manner that it recovers cost of installation and maintenance of Generating System, provide adequate return on investment and also provide additional incentive for reduced Distribution Losses and other benefits on account of distributed generation. Recent initiative by the Banks to offer such RE generator loan akin to Home Loan has enabled longer tenure of loan coupled with lower interest rate. Thus, the return on investment under the Net Billing Arrangement would remain beneficial, which will encourage the consumers to set up RE generating facilities under the Net Billing Arrangement. Further, several consumers have earlier approached the Commission to increase limit of 1 MW under Net Metering Regulations which was not allowed as relevant Regulation did not provide for the same. Now, with Net Billing Arrangement, the Commission does not find any reason to restrict it to 1 MW and hence, in draft Regulations the Commission has proposed to remove such capacity limit and has only linked it to the Contract Demand. This will facilitate all consumer categories to set up Grid Connected RRE generating systems on their premises, to utilise the space available in a constructive manner and also help achieve the national objective of installing 40 GW of GRPV by FY 2021-22.

In earlier dispensation as per Net Metering Regulations, 2015, if consumer wishes to install RE generating system of 1 MW and above, it has to either go behind the meter or to install such system at different location and then use such energy through Open Access under captive mode. In both these cases, consumers would be subjected to Electricity Duty of Rs. 1.20/kWh. In case of Open Access, such consumers would also have been subjected to Wheeling Charges, Wheeling Losses and Additional Surcharge, if applicable. In proposed Net Billing Arrangement, as consumer is selling electricity to Distribution Licensee, all these Charges would not be applicable.

It should also be noted that the FOR, in its 66th Meeting held on 18th January 2019, while endorsing the Model Regulations, decided as under:

"After deliberations, the Forum endorsed the Model Regulations and Report subject to the following modifications in the Report and Regulations:

a. Focus should be on Roof Top installations and their treatment.

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

b. Net billing concept will be adopted for the Roof top ... "

Thus, FOR has recommended that roof top installations should be encouraged rather than ground mounted. However, the Commission has proposed to continue promotion of such installations, irrespective whether the installation is on the roof-top or ground mounted.

Accordingly, the General Conditions of Net Metering Arrangement and Net Billing Arrangement is proposed to be modified as under:

"4.1. Net Metering Arrangement or Net Billing Arrangement, as the case may be, shall be permitted by the Distribution Licensee on a non- discriminatory and Distribution Transformer-wise or feeder wise 'first come, first serve' basis to Eligible Consumers who have installed or intend to install a Renewable Energy Generating 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.

- 4.2. The Eligible Consumer of the Residential category may set up the Renewable Energy Generating System under the Net Metering Arrangement.
- 4.3. The Eligible Consumer of all categories other than Residential category may set up the Renewable Energy Generating System only under the Net Billing Arrangement."

2.6 Capacity limits at Distribution Transformer level

The existing MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 specified the Capacity Limits at Distribution Transformer level for Net Metering installations as 40% of the rated capacity of the respective Distribution Transformer. The limit of 40% is based on the recommendations of the "Working Committee Report on Formulation of Regulatory Framework for Exploring Grid Connectivity of Solar Generators 1 MW & below capacity" in 2014. Further, the Regulations provide that the Distribution Licensee may allow Net Metering and/or Net Billing connectivity exceeding 40% of such rated capacity, upon consideration of a detailed load study carried out by it.

It is proposed to modify the clauses such that the capacity of all RE Generating Systems under Net Metering Arrangements and/or Net Billing Arrangements connected to a particular Distribution Transformer/feeder of the Licensee shall be allowed up to a minimum of 40% of

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

the Distribution Transformer capacity. Further, the Distribution Licensee shall allow Net Metering and/or Net Billing connectivity exceeding 40% of such rated capacity, unless any adverse impact has been assessed based on a detailed load study carried out by it at distribution transformer level. This will ensure that the Distribution Licensee is enabled to augment RRE capacity connected to a Distribution Transformer in excess of 40% of the rated capacity of the Distribution Transformer, unless the Licensee has strong justification for constraining the same.

Further, the existing MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 specified that the Distribution Licensee shall provide information on its website regarding the capacity available on each Distribution Transformer for connecting Renewable Energy Generating Systems under Net Metering arrangements within three months from the notification of these Regulations. This is critical information for the consumer to plan its Renewable Energy Generating System. Distribution Licensee can also use such information to promoting local grid connected RE generating for avoiding need of upgrading infrastructure for increased system loading. Hence, the Commission retains this provision and added the format in which Distribution Licensee shall published such information on its website on quarterly basis..

Accordingly, the Capacity limits at Distribution Transformer level is proposed to be modified as under:

- "5.1. The Distribution Licensee shall allow Net Metering Arrangement or Net Billing Arrangement, as the case may be, to Eligible Consumers as specified in these Regulations.
- 5.2. The cumulative capacity of all Renewable Energy Generating Systems under Net Metering Arrangements and/or Net Billing Arrangements connected to a particular Distribution Transformer/feeder of the Licensee shall be allowed up to a minimum of 40% of its rated capacity:

Provided that the Distribution Licensee shall allow Net Metering and/or Net Billing connectivity exceeding 40% of such rated capacity, unless any adverse impact upon has been assessed consideration of based on a detailed load study carried out by it.

5.3. The Distribution Licensee shall update the Distribution Transformer-wise capacity available and the cumulative capacity of the Renewable Energy Generating Systems installed under Net Metering arrangements quarterly, and provide the information on its website in the month following the close of the relevant quarter in the format specified in Annexure 6."

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

3 Technical Arrangements

3.1 Eligible Consumer and Individual Project Capacity

The existing MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 did not specify any minimum size of the RE generating system. However, it is necessary to specify the minimum size, else, very small size capacity may also come up under the Regulations, thereby increasing the complexity for the concerned Distribution Licensee. The FOR Model Regulations, 2019 has specified the minimum size as 1 kW and 10 kW for Net Metering Arrangement and Net Billing Arrangement, respectively. The Commission has proposed to adopt 1 kW minimum size limits in the draft MERC Grid Connected RE Regulations, 2019, as under:

"6.1. The minimum size of the Renewable Energy Generating System that can be set up under Net Metering and Net Billing Arrangement would be 1 kW."

The capacity of RE generating system is presently limited to the Sanctioned Load (in kW) or Contract Demand (in kVA) of the Eligible Consumer, which is proposed to be retained in the draft MERC Grid Connected RE Regulations, 2019.

The existing MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 provides that the capacity limits for the connectivity of a Renewable Energy Generating System to the Network of the Distribution Licensee shall be as specified in the MERC (Standards of Performance of Distribution Licensee, Period of giving Supply and Determination of Compensation) Regulations, 2014. The Commission is of the view that this clause is redundant, as the consumer is already connected to the system of the Distribution Licensee in accordance with the Supply Code. Further, in case of amendment of the Supply Code, there could be inconsistency in the Regulations. Hence, it is proposed to delete these clauses and the Table provided in the existing Regulations for this purpose.

MSEDCL, in its Petition in Case No. 20 of 2019 prayed that the MERC Net Metering Regulations, 2015 need to be amended for allowing the implementation of Net Metering arrangement only if the arrears with the Distribution Licensee have been paid. There is merit in the submission of MSEDCL in this regard, and Consumers who have pending arrears with the Distribution Licensee should not be able to benefit from the beneficial provisions of the Regulations. Hence, the following clause is proposed to be added:

"6.6. Consumers with pending arrears with the Distribution Licensee shall not be eligible for Net Metering or Net Billing under these Regulations."

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

3.2 Inter-connection with the Distribution Network / Grid, Standards and Safety

The existing MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 specifies certain requirements related to standards and safety to be ensured while interconnecting with the distribution network. The FOR Model Regulations, 2019 has recommended certain additional requirements related to anti-islanding, presence of automatic synchronisation device, limits for Total Voltage Harmonic Distortion (THD) and inverter having features of filtering out harmonics and other distortions before injecting the energy into the system of the Distribution Licensee. It is proposed to adopt these additional requirements for inter-connecting with the distribution network, as under:

"7.4. The Distribution Licensee shall have the right to disconnect the Renewable Energy Generating 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 Distribution Licensee, considering the criticality, may call upon the Consumer to rectify the defect within a reasonable time.

7.5. The Renewable Energy Generating System must have anti-islanding protection to prevent any feeding into the grid in case of failure of supply or grid:

Provided that applicable IEC/IEEE Technical Standards shall be followed to test islanding prevention measure for grid connected inverters...

7.7. Every Renewable Energy Generating System shall be equipped with an automatic synchronization device:

Provided that the Renewable Energy Generating System using inverter shall not be required to have separate synchronizing device, if it is inherently built into the inverter.

- 7.8. The Inverter shall have the features of filtering out harmonics and other distortions before injecting the energy into the system of the Distribution Licensee.
- 7.9. The Total Voltage Harmonic Distortion (THD) shall be within the limits specified in the Indian Electricity Grid Code (IEGC)/IEEE technical standards."

Further, the Commission has also added certain requirements to be adhered to by RE generating systems installed behind the Consumer's meter. It is proposed that such installations can be undertaken only after prior intimation to the respective Distribution Licensee, so that account

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

of energy generation by such captive plant can be maintained and made available to Authorities for calculation of taxes and duties, if applicable. Further, the Consumer shall be responsible for ensuring that all necessary safeguarding measures, as specified by the CEA, are taken. It is also understood that the Distribution Licensee may incur certain additional expenses on account of such systems, and that such systems, though connected behind the Consumer's meter, do benefit from being connected to the network of the Distribution Licensee. Further, installation of such facility may reduce the utilisation of Distribution Network and thereby such consumer may pay lower charges for such network setup earlier for it. Such unrecovered part of expenses is then loaded on other consumers of the Distribution Licensee. Hence, an enabling provision has been introduced for levy of additional Fixed Charges or Demand Charges and any other Charges for such systems, provided that the Distribution Licensee shall propose such additional Fixed Charges or Demand Charges and any other Charges for such systems, in its retail supply Tariff Petition, supported by adequate justification. In order to discourage consumers from installing such systems without intimating the Distribution Licensee, it is proposed that in such cases, then the total additional liabilities in terms of additional Fixed Charges or Demand Charges and any other Charges for such systems, shall be levied at twice the determined rate for such period of default. The proposed clause is as under:

"7.11. Renewable Energy Generating Systems connected behind the Consumer's meter shall be allowed only after prior intimation to the respective Distribution Licensee:

Provided that the Consumer shall be responsible for ensuring that all necessary safeguarding measures as specified by Central Electricity Authority (CEA) are taken:

Provided further that the Commission may determine additional Fixed Charges or Demand Charges and any other Charges for such systems, in the retail Tariff Order, if Distribution Licensee proposes such additional Fixed Charges or Demand Charges and any other Charges for such systems, in its retail supply Tariff Petition, supported by adequate justification:

Provided also that in case the Consumer installs Renewable Energy Generating Systems behind the Consumer's meter without prior intimation to the respective Distribution Licensee, then the total additional liabilities in terms of additional Fixed Charges or Demand Charges and any other Charges for such systems, shall be levied at twice at the determined rate for such period of default "

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

3.3 Metering Infrastructure

The existing MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 specifies certain requirements related to the Metering Infrastructure. The FOR Model Regulations, 2019 has recommended certain additional requirements related to Advanced Metering Infrastructure (AMI) and installation of Check Meters. It is proposed to adopt these additional requirements related to the Metering Infrastructure, with some modifications.

Further, the existing MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 specifies that the Net Meter and RE generation meter shall be installed at the cost of the Distribution Licensee. Most SERCs have specified that the cost of the Net Meter and RE generation meter shall be recovered from the Consumer. The Commission is of the view that the Distribution Licensee has incurred the expenses for the original consumer meter, and if the consumer wishes to replace the same with Net Meter, the cost of the Net Meter should be recovered from the consumer. As regards the RE generation meter, the Commission is of the view that the same is part of the generation facility and has to be borne by the consumer, irrespective of whether the benefit of RPO is available to the Distribution Licensee or not.

Accordingly, the proposed additional/modified clauses are as under:

- "8.1. All meters installed at the Renewable Energy Generating System shall comply with the CEA (Installation and Operation of Meters) Regulations, 2006 and subsequent amendments thereof.
- 8.2. All meters shall have Advanced Metering Infrastructure (AMI) facility with RS 485 (or higher) communication port.
- 8.3. 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.
- 8.4. Existing Meter in the premises of the Eligible Consumer shall be replaced by the Net Meter at the cost of the Consumer, in accordance with the provisions of the Electricity Supply Code.
- 8.5. 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.
- 8.6 The Distribution Licensee shall be responsible for the testing, installation, and maintenance of the metering equipment, and its adherence to the applicable standards and specifications.

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

- 8.7 The Eligible Consumer shall procure, at his own cost, a Renewable Energy Generation Meter conforming to the applicable CEA Regulations at an appropriate location to measure the energy generated from the Renewable Energy Generating System.
- 8.8 The Renewable Energy Generation Meter shall be maintained by the Distribution Licensee.
- 8.9 The Net Meter and the 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. ...
- 8.10. In case of Renewable Energy Generating System with capacity above 20 kW set up under Net Metering Arrangement, a Check Meter of appropriate class shall be installed by the Distribution Licensee for the Renewable Energy Generation Meter:

Provided that installation of Check Meter shall be optional for Renewable Energy Generating System with capacity up to and including 20 kW.

8.11. In case of Renewable Energy Generating System set up under Net Billing Arrangement, an additional Check Meter for the Renewable Energy Generation Meter of appropriate class shall be installed by the Distribution Licensee."

3.4 Procedure for Application and Registration

The existing MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 specifies the procedure for Application for connectivity of the RE Generating System with the Distribution Licensee's Network.

The existing Regulations specify Application Fees of Rs. 500 (five hundred) and Rs. 1,000 (one thousand) for Consumers with Sanctioned Load or Contract Demand, as the case may be, up to and above 5 kW, respectively. In order to encourage such installations at Low tension level, it is proposed to specify a flat rate of Rs. 500, upto the Sanctioned Load or Contract Demand of 10 kW and thereafter Rs 100 for every 1 kW or part thereof. Similarly, for HT Consumers it is proposed to levy a flat fees of Rs 10,000/- irrespective of Sanctioned Load or Contract Demand. Further, the registration fees may be stipulated by the Commission from time to time in the Schedule of Charges for the concerned Distribution Licensee.

The existing Regulations provide for Applications being made in hard copy. The Commission proposes that the Distribution Licensee enables electronic means for receiving the applications, within two months of notification of the Regulations. In the present day and age, requiring

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

Applications to be submitted in hard copy is not advisable, hence, it is proposed to make Application submission compulsorily through web-based processing system. Further, it is proposed that the Consumer shall compulsorily provide details of email address and mobile number, along with the application, so that all correspondence by the Distribution Licensee with the Consumer and vice versa is through email and mobile phone only.

Accordingly, the proposed additional/modified clauses are as under:

"9.1. The Eligible Consumer shall apply to the concerned Distribution Licensee for connectivity of the Renewable Energy Generating System with the Licensee's Network along with a registration fee as follows and the Distribution Licensee shall acknowledge receipt of such application:

Particular	Registration Fee		
Low Tension Consumer	Rs. 500 for consumer having Sanctioned Load or		
	Contract Demand upto 10 kW and Rs 100		
	thereafter for every 1 kW or part thereof		
High Tension Consumer	Rs 10,000/-		

Provided that the Commission may stipulate such other amount through Schedule of Charges of Distribution Licensee from time to time;

- 9.2. All applications and payment of fees shall be compulsorily made through webbased processing system by electronic means only.
- 9.3. The Consumer shall compulsorily provide details of email address and mobile number, along with the application.
- 9.4. All correspondence by the Distribution Licensee with the Consumer shall be through email and mobile only.
- 9.5 The procedure for application for connectivity of a Renewable Energy Generating System with the Network of the Distribution Licensee is set out at Annexure 1 of these Regulations.
- 9.6 The model Form, along with check-list, for application to be made by the Eligible Consumer to the concerned Licensee, is set out at Annexure 2 of these Regulations.
- 9.7 Before rejecting any application for setting up a Renewable Energy Generating System at a particular Distribution Transformer, the Distribution Licensee shall serve the applicant with a notice to rectify the defects in the ambit of the consumer, within 15 days or such longer period as may be necessary, the deficiencies:

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

Provided that in case approval cannot be granted due to inadequate Distribution Transformer capacity or any other technical constraints, the consumer should be informed through written communication only, specifying the reasons of the rejection:

Provided further that the application may be considered, in chronological order of seniority and if the Consumer so opts, after such capacity becomes available/ technical constraint is rectified.

9.8 The approval for connectivity from the Distribution Licensee 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:

Provided that if the Consumer fails to set up the Renewable Energy Generating System within the above stated period, then the approval shall be deemed to be cancelled, and the Consumer shall have to apply afresh. "

3.5 Connection Agreement

The existing MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 specifies the details of the Connection Agreement specifically for Net Metering Arrangement, as the existing Regulations were designed for Net Metering only. As the draft MERC Grid Connected RRE Regulations, 2019 are intended for Net Metering as well as Net Billing Arrangements, the necessary modification has been carried out in the Regulations. The Model Net Billing Connection Agreement has also been provided as an Annexure to the Regulations, along with the revised Net Metering Connection Agreement.

The Commission has proposed that the Distribution Licensee may terminate the Agreement by giving 15 days' notice in case the consumer fails to pay his dues in a timely manner or indulges in any malpractices. This will ensure that the consumer continues to pay his bills on time, and also does not indulge in any malpractices, else, he will be subjected to the possibility of termination of the Agreement. Further, the notice period for termination of the Agreement by Consumer is proposed to be increased from 30 days to 90 days, to give sufficient time to the Distribution Licensee to manage the implications of the termination of Agreement.

Accordingly, the proposed additional/modified clauses are as under:

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

- "10.1. The Distribution Licensee and Eligible Consumer shall enter into a Net Metering Connection Agreement or Net Billing Connection Agreement, as the case may be, after approval of connectivity of the Renewable Energy Generating System with the distribution Network but before the start of actual generation from the System.
- 10.2. A model Net Metering Connection Agreement is provided at Annexure 3, which the Distribution Licensee may modify suitably subject to consistency with these Regulations.
- 10.3. A model Net Billing Connection Agreement is provided at Annexure 4, which the Distribution Licensee may modify suitably subject to consistency with these Regulations.
- 10.4. The Distribution Licensee shall make available the Agreement formats on its website, along with the applicable procedure and Application and other relevant forms, within two months of notification of these Regulations.
- 10.5. The Connection Agreement shall remain in force for twenty years:

Provided that the Eligible Consumer may terminate the Agreement at any time by giving 90 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 Distribution Licensee may terminate the Agreement by giving 15 days' notice in case the consumer fails to pay his dues in a timely manner or indulges in any malpractices:

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

4 Commercial Arrangements

The existing MERC (Net Metering for Roof-top Solar Photo Voltaic Systems) Regulations, 2015 specifies the details of the Commercial Arrangements specifically for Net Metering, as the existing Regulations were designed for Net Metering only. As the draft MERC Grid Connected RRE Regulations, 2019 are intended for Net Metering as well as Net Billing Arrangements, the Commercial Arrangement for Net Billing has also been specified, as discussed below.

4.1 Net Metering – Energy Accounting and Settlement

In the draft MERC Grid Connected RE Regulations, 2019, it is proposed that the Net Metering Arrangement shall be available only to the Residential category. The corresponding changes have been incorporated in the Regulations, to reflect this change.

Further, the Commission has referred to the modifications proposed in the FOR Model Regulations, 2019 for Net Metering, as well as the clauses specified in the Regulations notified by other SERCs, and incorporated the same in the draft MERC Grid Connected RRE Regulations, 2019, for greater clarity. For instance, additional/modified clauses have been proposed for the following aspects:

- (a) Added clause specifying that meter reading of the RE generation meter and Net Meter by the Distribution Licensee according to the regular metering cycle;
- (b) Information to be made available by the Distribution Licensee to the Eligible Consumer on the bill has been modified.

Accordingly, the proposed additional/modified clauses are as under:

- "11.2 The Distribution Licensee shall undertake meter reading of both, the Renewable Energy Generation Meter and the Net Meter, for all Eligible Consumers, according to the regular metering cycle.
- 11.3. For each Billing Period, the Distribution Licensee shall make the following information available on its bill to the Eligible Consumer:
 - a) Quantum of Renewable Energy generation recorded in the Renewable Energy Generation Meter in the billing period, including opening and closing balance;

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

- b) Quantum of electricity units consumed by the Consumer in the billing period, including opening and closing balance;
- c) Quantum of net billed electricity units, for which a payment is to be made by the Consumer;
- *d)* Banked Energy and corresponding monetary compensation, adjusted in the billing period;
- e) Renewable Energy generation units used by the Distribution Licensee for RPO compliance."

In accordance with the National Policy and with the intention of encouraging the lower consumption consumers in the Residential category to benefit from the Net Metering Arrangement, it is proposed to provide the Net Metering benefit up to 300 units of consumption for the Residential category, with the following stipulations:

- a) The first 300 units generated during the billing period shall be netted out against the energy consumption of the consumer in that billing period;
- b) Any RE generation in excess of 300 units in the billing period shall be purchased by the Distribution Licensee at the Generic Tariff approved by the Commission for the year in which the Renewable Energy Generation Project has been commissioned;
- c) In case the consumer's consumption is less than 300 Units in that billing period, then the balance surplus generation from the first 300 units generated by the RE Generating Station shall be considered as Banked Energy for adjustment in the subsequent billing periods;
- d) In case the value of Renewable Energy generation in a particular month is more than the value of all other components of the consumer's bill, such amount shall be allowed as Billing Credit to the consumer for adjustment in subsequent billing periods;
- e) The Banked Energy at the end of each Year, if any, shall be purchased by the Distribution Licensee at the Generic Tariff approved by the Commission.

For greater clarity, an illustration is also included in the draft MERC Grid Connected RRE Regulations, 2019.

Accordingly, the proposed additional/modified clauses are as under:

- "11.4. The energy generated by the Renewable Energy Generating Station shall be offset against the energy consumption of the consumer from the Distribution Licensee in the following manner:
 - *a)* The first 300 units generated during the billing period shall be netted out against the energy consumption of the consumer in that billing period:

Provided that if the consumer's consumption is less than 300 Units in that billing period, then the balance surplus generation from the first 300 units generated by the Renewable Energy Generating Station shall be considered as Banked Energy for adjustment in the subsequent billing periods.

b) Any units generated in excess of 300 units by the Renewable Energy Generating Station in the billing period shall be purchased by the Distribution Licensee at the Generic Tariff approved by the Commission for the respective technology in the Renewable Energy Tariff Order for the year in which the Renewable Energy Generation Project has been commissioned:

Provided that such amount shall be credited to the consumer in the same billing period and shall be used for reducing the billed amount for that billing period;

- c) In case the value of such excess Renewable Energy generation in a particular month is more than the value of all other components of the consumer's bill, such amount shall be allowed as Billing Credit to the consumer for adjustment in subsequent billing periods;
- d) The Banked Energy at the end of each Year, if any, shall be purchased by the Distribution Licensee at the Generic Tariff approved for the respective period by the Commission for respective technology in the Renewable Energy Tariff Order.

Illustration:

(i) In a billing period, if the consumption is 850 units and generation from Renewable Energy Generating Station is 500 units, then the first 300 units generated will be net out against consumption (850 - 300 = 550 units), and the consumer shall be billed at the tariff applicable for consumption of 550 units. The balance generation, i.e., 200 units (500 - 300 = 200 units) shall be purchased by the Distribution Licensee at the Generic Tariff approved for the respective period by the Commission for the respective technology in the

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

Renewable Energy Tariff Order, and the said amount shall be credited in the same bill.

- (ii) In case, the consumption is 250 units and generation from Renewable Energy Generating Station is 500 units, then out of first 300 units of generation only 250 units can be net out against consumption of 250 units, and balance 50 units shall be considered as Banked Energy for adjustment in subsequent billing periods. The balance generation, i.e., 200 units (500 - 300 = 200 units) shall be purchased by the Distribution Licensee at the Generic Tariff approved for the respective period by the Commission for the respective technology in the Renewable Energy Tariff Order, and the said amount shall be credited in the same bill.
- (iii) In case the value of such excess Renewable Energy generation in a particular month is more than the value of all other components of the consumer's bill, such amount shall be allowed as Billing Credit to the consumer for adjustment in subsequent billing periods."

Based on the FOR Model Regulations, 2019, certain additional clauses are proposed to be incorporated, as under:

- (a) Treatment in case the Eligible Consumer ceases to be a consumer of the Licensee or the Renewable Energy Generating System is abandoned earlier;
- (b) Exemption from levy of Wheeling Charges, Banking Charges, cross-subsidy surcharge, transmission charges and surcharges.

Accordingly, the proposed additional clauses are as under:

- "11.5. The Distribution Licensee shall accept the power as per the useful life of the Renewable Energy Generating System, unless the Eligible Consumer ceases to be a consumer of the Licensee or the Renewable Energy Generating System is abandoned earlier.
- 11.6. In case the Eligible Consumer leaves the system or changes the Supply Licensee, the excess electricity shall be considered as inadvertent injection and shall not be paid for by the Distribution Licensee.

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

11.7. The Renewable Energy Generating System installed under these Regulations shall be exempted from levy of wheeling charges, Banking Charges, cross-subsidy surcharge, transmission charges and surcharges."

The clause of the Consumer having recourse to the CGRF in case of any billing dispute has been retained. Further, there may be dispute between the Distribution Licensee and the Consumer on the issue of whether RE generation capacity going beyond 40% Distribution Transformer loading has been unjustifiably denied, in terms of the stipulations of Regulation 5.2 of the Regulations. The CGRF may not have the necessary technical expertise to adjudicate on these issues. Hence, a proviso has been added that in case of any dispute with the Distribution Licensee with regard to implementation of Regulation 5.2 of these Regulations, the concerned CGRF may take assistance on technical matters from any Independent Advisor empanelled with the Maharashtra Energy Development Agency (MEDA). Accordingly, the proposed additional clauses are as under:

"11.8 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:.

Provided that in case of any dispute with the Distribution Licensee with regard to implementation of Regulation 5.2 of these Regulations, the concerned Consumer Grievance Redressal Forum may take assistance on technical matters from any Independent Advisor empanelled with the Maharashtra Energy Development Agency (MEDA)."

4.2 Net Billing – Energy Accounting and Settlement

The principles for Energy Accounting and Settlement under the Net Billing Arrangement have been proposed, based on the FOR Model Regulations, 2019, as suitably modified for the State, and considering the following approach:

- (a) Clause specifying that meter reading of the RE generation meter and Consumer Meter by the Distribution Licensee according to the regular metering cycle;
- (b) Information to be made available by the Distribution Licensee to the Eligible Consumer on the bill has been listed;

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

- (c) The rate at which PPA has to be entered into between the Distribution Licensee and the Eligible Consumer for the energy generated by the RE source has been specified as the Generic Tariff approved by the Commission for the respective technology;
- (d) The Generic Tariff stipulated in the Power Purchase Agreement shall remain constant for the entire duration of the Agreement;
- (e) While determining the generic tariff, the Commission shall factor in additional benefit , to reflect reduction of distribution losses and other benefits due to distributed generation;
- (f) The Distribution Licensee shall raise the bill on the Consumer for the energy consumption at the Tariff approved by the Commission in the applicable Retail Supply Order, and shall give credit for the energy generated by the Eligible Consumer at the rate mentioned in the PPA;
- (g) The Formula for the above commercial settlement has been specified, along with Illustration, for giving the necessary clarity.

The following Table provides	the illustration for settlement	under Net billing arrangement:
The following Table provides	and musuation for settlement	under Net omnig arrangement.

SI.	Particulars	Units	Illustration 1	Illustration 2	Illustration 3	Illustration 4
1	Billing Demand	kVA	NA	25	200	200
2	Units consumed	kWh	250	500	15,000	13,500
3	RE Units generated	kWh	350	450	12,500	12,000
4	Total net units consumed/(injected)	kWh	-100	50	2,500	1,500
5	Generic Tariff	Rs/kWh	3.64	3.64	3.64	3.64
6	Approved Fixed Charges	Rs./month or Rs/kVA/month	Rs. 365/month	350 Rs/kVA/month	350 Rs/kVA/month	350 Rs/kVA/month
7	Approved Variable Charges, including Wheeling Charges	Rs/kWh	9.80	9.60	9.00	9.00
8	Amount Payable/(Receivable) by Consumer to/(from) DISCOM Rs.	Calculation	365+(250*9.80)- (350*3.64)	(350*25)+ (500*9.60)- (450*3.64)	(350*200)+ (15000*9.00)- (12000*3.64)	(350*200)+ (13500*9.00)- (12000*3.64)
		Rs.	1,541.00	11,912.00	1,59,500.00	1,47,820.00
			Plus all taxes & duties			

Accordingly, the proposed additional clauses are as under:

"12.1. Net billing is the arrangement where the Renewable Energy Generating Station is:

- a) Installed to serve a specific consumer,
- b) Connected on the Distribution Licensee side or consumer side of the consumer meter,

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

c) Selling entire power generated to a Distribution Licensee under Power Purchase Agreement:

Provided that if the Renewable Energy Generating Station is connected on the consumer side of the consumer meter, then the consumer shall have to replace the consumer meter with a Net Meter.

- 12.2. The accounting of electricity exported and imported by the Eligible Consumer shall become effective from the date of connectivity of the Renewable Energy Generating System with the distribution network.
- 12.3. The Distribution Licensee shall undertake meter reading of both, the Renewable Energy Generation Meter and the Consumer Meter or Net Meter, as applicable, for all Eligible Consumers, according to the regular metering cycle.
- 12.4. For each Billing Period, the Distribution Licensee shall make the following information available on its bill to the Eligible Consumer:
 - a) *Quantum of Renewable Energy generation recorded in the Renewable Energy Generation Meter, including opening and closing balance;*
 - *b) Quantum of electricity units consumed by the Consumer in the billing period, including opening and closing balance;*
 - c) Amount of billing credit, if any, in the billing period, including opening and closing balance;
 - *d) Renewable Energy generation units used by the Distribution Licensee for RPO compliance.*
- 12.5. The Distribution Licensee shall enter into Power Purchase Agreement at the Generic Tariff approved for the respective period by the Commission for the respective technology in the Renewable Energy Tariff Order:

Provided that the Generic Tariff stipulated in the Power Purchase Agreement shall be constant for the entire duration of the Agreement.

12.6. The Distribution Licensee shall raise bill on the Consumer in accordance with the following equation:

Energy Bill of consumer = Fixed Charges + other applicable charges and levies + (EDL x TRST) - (ERE * TPPA) – Billing Credit;

Where:

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

- a) Fixed Charges means the Fixed/Demand Charges as applicable to the consumer category as per the applicable retail supply Tariff Order;
- b) Other charges and levies mean any other charges such as municipal tax, cess, etc.;
- c) ERE means the energy units recorded for the billing period by the Renewable Energy Generation Meter;
- d) TPPA means the energy charges as per the Power Purchase Agreement signed between the Consumer and Distribution Licensee, in accordance with Regulation 12.5;
- e) EDL means the energy units supplied (i.e., Gross Electricity Consumption by the Consumer) by the Distribution Licensee as recorded by the consumer meter for the billing period;
- f) TRST means the applicable retail supply tariff of the concerned consumer category as per the applicable retail supply Tariff Order of the Commission;
- g) Billing Credit is the amount by which the value of Renewable Energy generation in a particular month is more than the value of all other components of consumer bill."

4.3 Energy Accounting during meter defect/failure/burnt

In the existing MERC Net Metering Regulations, there are no clauses specifying the treatment in cases of meter becoming defective or failure or burnt. The Commission has proposed the treatment to be done in such cases in the draft MERC Grid Connected RE Regulations, 2019, for greater clarity, as under:

- *"13.1. In case of defective/failure/burnt condition of any meter, the Distribution Licensee shall replace the meter as specified in the Electricity Supply Code.*
- 13.2. The electricity generated by the Renewable Energy Generating System during the period in which the meter is defective shall be determined based on the readings of the Check Meter:

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

Explanatory Memorandum for Draft MERC (Grid Interactive Rooftop Renewable Energy Generating Stations) Regulations, 2019

13.3. The consumption of the Consumer during the period in which the Consumer meter or Net Meter is defective shall be determined as specified in the Electricity Supply Code."

4.4 Renewable Purchase Obligation

In the existing MERC Net Metering Regulations, the treatment of the energy generated by the RE generating system towards Renewable Purchase Obligation (RPO) of the Eligible Consumer and Distribution Licensee, is clearly specified, and no changes are proposed to this dispensation. However, the treatment of the energy generated by the RE generating system under the Net Billing Arrangement towards Renewable Purchase Obligation (RPO) has been specified in the draft MERC Grid Connected RRE Regulations, 2019, and it is proposed that the entire energy generated by the RE generating system shall be considered towards the RPO of the Distribution Licensee, as the Licensee is purchasing the entire quantum of power generated by the RE generating station.

Accordingly, the proposed additional clause is as under:

"14.4. Under the Net Billing Arrangement, the entire quantum of electricity recorded by the Generation Meter shall qualify towards meeting the RPO of the Distribution Licensee."

4.5 Eligibility under Renewable Energy Certificate mechanism

In the existing MERC Net Metering Regulations, the treatment of the energy generated by the RE generating system towards issuance of Renewable Energy Certificate (REC), is specified for Net Metering Arrangement. The clause has been modified to extend the same treatment to the Net Billing Arrangement also.

Accordingly, the proposed additional clause is as under:

"The Renewable Energy generated by an Eligible Consumer under the Net Metering Arrangement or the Net Billing Arrangement under these Regulations shall not be eligible for issuance of Renewable Energy Certificate".

-X-X-X-X-X-