

Madhya Pradesh Policy for Decentralized Renewable Energy Systems, 2016

1. PREAMBLE

- 1.1 To harness the abundantly available Renewable Energy (RE) potential in the state, the Government of Madhya Pradesh wishes to encourage the development of decentralised RE projects and applications through this policy document. With recent technological advances in the sector and achievements in the space of large scale RE based power generation, green energy has emerged as a viable and sustainable alternative to electricity produced from fossil fuel.
- 1.2 Amongst RE sources of generation, solar energy has by far the most suitable technology in the market today for decentralized and distributed energy generation. A distributed solar energy application offers a number of options for a wide variety of stakeholders to harness RE generation and, hence, is expected to become the most popular option for harnessing RE amongst consumers and small independent power producers.
- 1.3 The state of Madhya Pradesh is endowed with more than 300 clear sunny days with average solar irradiation of $\sim 5.5 \text{ kWh/m}^2/\text{day}$. The state now intends to take forward the ambitious and forward looking vision adopted by it under the “Madhya Pradesh Solar Policy, 2012”, which has provided a major thrust to the installation of grid-connected solar projects in the state, by providing a similar thrust through this policy document.
- 1.4 “Madhya Pradesh Solar Policy, 2012”, under clause 5(b), section- I, intends to promote decentralised solar energy generation on large scale. In furtherance to the same, it is envisaged through this policy to attract RE projects on rooftops and in Premises through various incentives.
- 1.5 The policy also finds favour with the overall sectoral development in the country, with the National Solar Mission (NSM) envisaging development of 40 GW of grid connected solar rooftop systems by 2022. This policy document also has high synergies with another key focus area of the Government of India, viz., the “Smart City” program, which envisages a minimum of 10% of the energy consumption in a “Smart

City” coming from solar energy. The Smart City Program has in its first stage identified three cities in the State to be developed as “Smart Cities”.

- 1.6 The facilitative policy and regulatory framework, both at Central and State levels, coupled with the rapidly falling prices of solar technology, have been successful in promoting the development of solar energy and attracting investments to the sector from a wide range of stake holders. This trend is now being seen amongst retail investors and energy consumers as well, who see a huge potential for installation of RE technologies, either on rooftops or within the consumer’s own Premises, including parking lots, agricultural farms, etc., for meeting their own energy requirements and addressing their energy security needs.
- 1.7 National Tariff Policy (NTP), published in GoI gazette dated 28th January 2016, lays down Solar RPO of 8% by 2022. Though long-term trajectory of RPO has to be laid down by the concerned SERC, the Ministry of New and Renewable Energy, Government of India has indicated 5636 MW as Solar RPO target for Madhya Pradesh by 2022.
- 1.8 Out of the target of 40 GW of solar rooftop development by 2022 given by the Ministry of New and Renewable Energy, Government of India, the state of Madhya Pradesh has been allotted a target of 2.2 GW. The year-wise capacity of targets for Grid Connected Solar Rooftop projects set by Government of India for the state is as follows:

Year	Targets (in MW)
2015-16	10
2016-17	265
2017-18	275
2018-19	330
2019-20	385
2020-21	440
2021-22	495

- 1.9 The Government of Madhya Pradesh in its endeavour to promote decentralized RE Systems would encourage them to operate in the following ways:
 - a. Grid Connected RE Systems
 - i. Category I : On Net Metered basis

- ii. Category II : Gross Metering with wheeling & banking
- iii. Category III : For consumption within Premises with no export of power (Reduction in Base load during day)

b. Off - Grid RE Systems

- 1.10 With the view of promoting development and deployment of decentralized and distributed RE systems in the state of Madhya Pradesh, especially solar PV rooftop systems and other RE Systems, the Department of New and Renewable Energy, Government of Madhya Pradesh hereby notifies the **‘Madhya Pradesh Policy for decentralized Renewable Energy Systems, 2016’**.
- 1.11 The policy intends to promote consumption of captive energy generation, and third party sale of energy generated from RE resources at decentralized locations. This would reduce the burden on conventional sources of energy. The policy also intends to help in reduction of distribution losses, which are a bane for distribution licensees. It is also envisaged, through this policy, to help the community realize the importance of judicious use of electricity, and involve them in the process of reducing their electricity bills and dependence on conventionally produced electricity.
- 1.12 While this policy aims to promote all decentralized and distributed RE technologies and is technology neutral, for the purposes of discussion and application, the focus would be mostly on decentralized and distributed solar PV rooftop systems, since amongst all technologies, solar PV rooftop has the largest potential for mass replication amongst consumers and small independent power producers for the following reasons – 1) solar PV rooftop systems are already meeting grid parity for commercial and industrial applications, and will also meet grid parity with residential consumer tariffs over the next few years; 2) solar PV rooftop technology is robust and modular in nature with an established supply chain; 3) banks and financial institutions are familiar with solar technology; 4) solar technology has no fuel requirement, and is a plug and play technology with no substantial operation and maintenance requirements; and 5) solar technology is easily replicable and scalable.
- 1.13 As stated above, the focus of the policy will be on solar PV systems and, hence, all key provisions, like interconnection framework, technical specifications, etc., have been adopted keeping solar PV system in view. These provisions can be extended to cover

other technology options as and when such technologies mature and there is appreciable demand for these technologies.

1.14 Systems incorporating various RE sources in hybrid mode are also allowed in this Policy.

1.15 Rooftop RE Systems are being implemented in the state for the last many years, as defined in Category II, viz., gross metering with wheeling & banking, category III, viz., simple load reduction and Off - Grid RE Systems. The policies and the Regulations for the same are in place and have been applied all across the state. The present policy, though it covers all RE beneficiaries defined in para 1.9, focuses more on Net Metered applications classified as Category I, since MPERC (Grid Connected Net Metering) Regulations, 2015 have recently been notified.

2. DEFINITIONS

- a. **“Billing Period”** means the period for which regular electricity bills, as specified by the Commission, are prepared for different categories of consumers by the licensee;
- b. **“Consumer”** means any person who is supplied electricity for his own use by a licensee or the Government or by any other person engaged in the business of supplying electricity to the public under the Act or any other law for the time being in force and includes any person whose Premises are, for the time being, connected for the purpose of receiving electricity with the works of a Distribution Licensee, the Government or such other person, as the case may be. Users who have merely wheeling/ supply arrangements with the licensee, or Users with off-grid loads are also covered as Consumers under this policy;
- c. **“Financial Year” or “Year” or “Settlement Period”** means the period beginning from first day of April as per English calendar year and ending with the thirty first day of the March of the following calendar year;
- d. **“Generation Meter”** means meter(s) used for accounting of energy generated from RE System;
- e. **“Inter-connection Point”** means the interface of RE generation system with the network connecting to consumption point;

- f. **“Net Meter”** means a meter used for accounting and billing of electricity supplied to and from the consumer, under the MPERC (Grid Connected Net Metering) Regulations, 2015 and subsequent amendments thereof;
- g. **“Net Metering Arrangement”** means an arrangement under which RE System installed at Net Metered Consumer’s Premises delivers surplus electricity, if any, to the Distribution Licensee after off-setting the electricity supplied by the Distribution Licensee during the applicable Billing Period, under the MPERC (Grid Connected Net Metering) Regulations, 2015 and subsequent amendments thereof;
- h. **“Net Metered Consumer”** means a consumer, who uses the RE System installed in his Premises to offset part or all of his own electrical requirements, in accordance with MPERC (Grid Connected Net Metering) Regulations, 2015 and subsequent amendments thereof;
- i. **“Nodal Agency”** means Madhya Pradesh Urja Vikas Nigam (MPUVN) Limited that will be the implementing agency for this policy;
- j. **“Normative CUF”** is the Capacity Utilization Factor decided jointly by New and Renewable Energy Department and Energy Department for RE System installed under this Policy;
- k. **“Obligated Entity”** means the entity mandated under clause (e) of subsection (1) of Section 86 of the Electricity Act, 2003 to fulfill the Renewable Purchase Obligation identified under MPERC (Cogeneration & Generation of Electricity from Renewable Sources of Energy) Regulations, 2010 and subsequent amendments thereof;
- l. **“Open Access”** means the non-discriminatory provision for the use of transmission lines or distribution system or associated facilities with such lines or system by any licensee or consumer or a person engaged in generation in accordance with CERC (Open Access in Inter-State Transmission) Regulations, 2008 or under MPERC (Terms and conditions for Intra-State Open Access in Madhya Pradesh) Regulations, 2005, and subsequent amendments thereof;

- m. **“Premises”** shall mean any land, building or structure or part thereof or combination thereof, wherein a separate meter or metering arrangement has been made by the licensee for measurement of supply of electricity, including the agricultural farms intending to use solar panels deployed for solar pumps, where an RE System is set up. As regards category I, setting up of the RE System should be ancillary to the purpose of the Premise and should not be the primary activity of the Premise;
- n. **“RE Beneficiary”** means the owner/user of Premises, where the RE System is installed under any of the Categories specified in para 1.9 of this policy. RE System can be either self-owned or third party owned;
- o. **“RE System”** means the grid connected or off grid system to generate electricity from such source(s), which are recognized as RE source(s) by Ministry of New and Renewable Energy (MNRE), Government of India or any other agency, as may be notified by the Government/Commission;
- p. **“RESCO (Renewable Energy Services Company)”** means a person or an entity, which is in the business of supplying RE generated through the RE System installed in the Premises of the RE Beneficiary on mutually agreed terms. RE so generated can be either sold to RE Beneficiary owning the Premises or to any third party or self-consumed by RESCO outside such Premises.

Words and expressions used in this policy, which are not specifically defined herein but are defined in the Electricity Act 2003, shall have the meaning assigned to them in the said 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.

3. **OBJECTIVES OF THE POLICY**

- a. Growth of decentralized RE Systems.
- b. To reduce dependence on conventional sources of energy.
- c. To provide impetus to growth of clean technology in the state of Madhya Pradesh.
- d. To reduce distribution losses of Distribution Licensees by decentralized generation.
- e. To improve tail-end grid voltages and reduce system congestion.

- f. To reduce carbon emissions.
- g. To help the State achieve its RPO (Renewable Purchase Obligation)
- h. To develop sustainable energy solution for future, and help in achieving energy security of the nation.
- i. To encourage job creation in the downstream RE market segment.
- j. To help the community realize the importance of judicious use of electricity and involve them in the process of reducing dependence on conventionally produced electricity.

4. **POLICY AND REGULATORY FRAMEWORK**

- 4.1. The Electricity Act, 2003, in force since June 2003, allows any Government/ Private Institution or Individual or any other legal entity (agency) to set up a power generation plant.
- 4.2. Madhya Pradesh Electricity Regulatory Commission (MPERC) notified regulations relating to Terms and Conditions for Intra-State Open Access in Madhya Pradesh in June, 2005. These regulations were subsequently amended in October, 2006 in the context of Non-Conventional energy sources as per below:

“.... the Principal Regulations, in Clause 3.3, the following Sub-Clause (i) shall be substituted, namely: (i) For Non-conventional Energy Sources: The non-conventional energy generators and users shall be provided with open access with immediate effect and they shall be governed by the existing policy of State Government. The non-conventional energy generators shall be provided access to the transmission and sub-transmission system in the same manner as had been provided to them by the erstwhile integrated Madhya Pradesh State Electricity Board in accordance with State Government Policy in this regard on the same terms and conditions.”

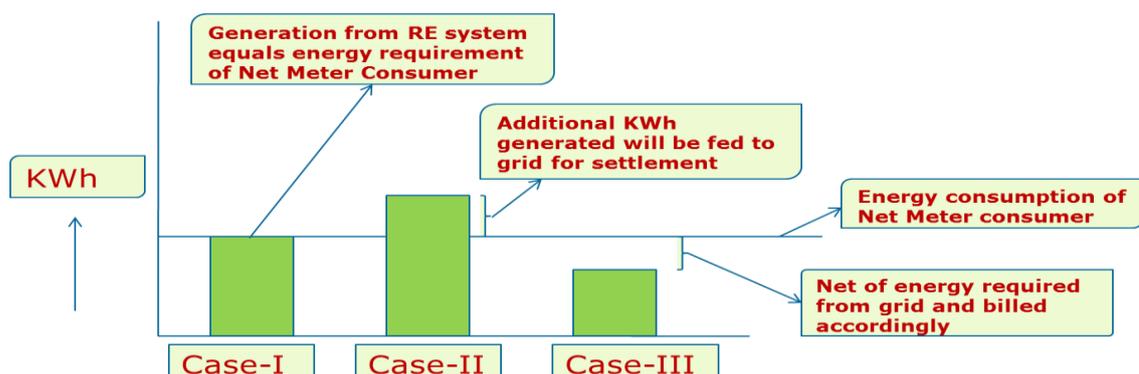
- 4.3. Government of Madhya Pradesh has encouraged installation in the state by its enabling policies on biomass (notified in 2011), hydro (notified in 2011), solar (notified in 2012), wind (notified in 2012), based RE projects and its amendments thereof.

- 4.4. Madhya Pradesh Electricity Regulatory Commission (MPERC) has notified regulations relating to Grid Connected Net Metering Renewable Energy Systems in October 2015.
- 4.5. This Policy sets the roadmap for growth of decentralized RE Systems in the state. The Regulations, especially pertaining to Net Metering, might be further liberalized, so as to enable growth of RE projects in accordance with the target set by Government of India. However, in case of any discrepancy between the provisions of this policy and the regulations of the Commission, at present or in future, the provisions of the orders/regulations of the Commission shall prevail.
- 4.6. It is clarified that, in case of discrepancy between the provisions of this policy and the existing provision of any of the RE policies, with respect to the projects registered under this policy, the provision of this policy shall prevail.

5. POSSIBLE OPERATING MODES FOR ROOFTOP RE SYSTEMS

5.1. Net Metered RE Systems (“Category –I”)

A Grid Connected RE System is installed in the 'Premises' as defined in para 2 (m) of this policy, to generate electricity. The power so generated is first consumed in the same Premises and the surplus power (if any) is fed to the grid of Distribution Licensee. In case, requirement of the Premises is more than the renewable power being generated, the extra power is drawn from the grid. There is energy accounting with the grid, which is explained below:-



Case-I

In this case, the generation of energy from Net Metered RE System equals the energy requirement of the Net Metered Consumer’s Premises (where the RE System is

installed) in the same Billing Period. There is no net export or import of energy from the grid in that Billing Period and, therefore, the net billing (in terms of units) would be zero for that Billing Period.

Case-II

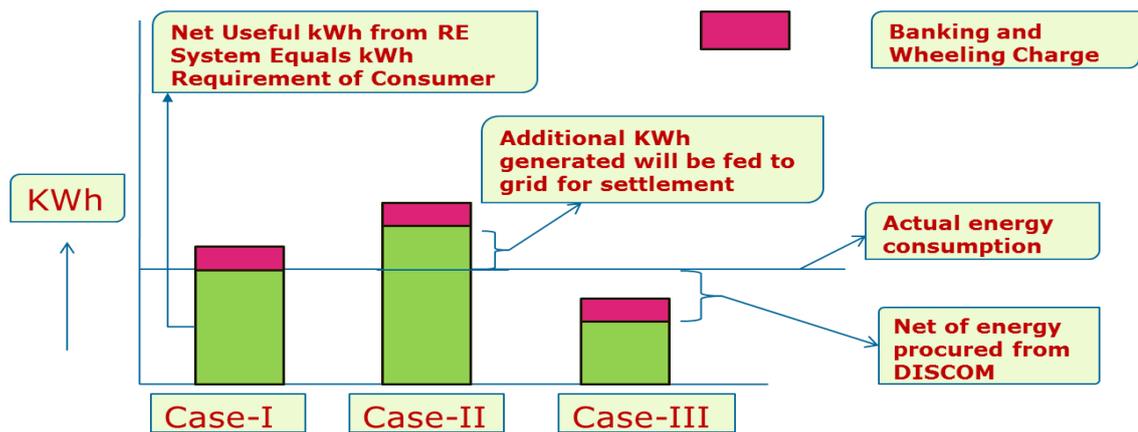
In this case, generation of energy from Net Metered RE System exceeds such Premise's energy requirement. The surplus energy exported to the grid, would be settled against forthcoming Billing Periods within the settlement period, as provided in MPERC (Grid Connected Net Metering) Regulations, 2015.

Case-III

In this case, generation of energy from Net Metered RE System is less than energy requirement of the Net Metered Consumer. The additional energy so required can be imported from the grid and settled/billed at the prevailing retail supply tariff as notified by MPERC.

5.2. Gross Metering with wheeling & banking ("Category-II"):-

A Grid Connected RE System is installed in the Premises of RE Beneficiary to generate electricity, which is entirely fed into the licensee's network. The energy so generated is supplied through mutually agreed terms, using the arrangement of wheeling and banking. The energy could be supplied anywhere in the state to one or more customers, including to the premises where the RE was produced. It is clarified that the pooling of energy from RE systems installed at multiple premises is permitted to supply energy to one consumer. To supply/ consume such RE, it might not be necessary to be a retail consumer of the Distribution Licensee; it would be possible even with a supply relationship through wheeling and banking with the licensee. There is energy accounting with the grid, which is explained below:



Case I:

In this case, energy available, after deducting wheeling and/or banking charges from the energy generated from Grid Connected RE System, equals the energy requirement of the consumer over the billing period. The billing (in terms of units) for consumer in this case will be zero for that particular billing period.

Case II:

In this case, energy available, after deducting wheeling and/or banking charges from the energy generated from Grid Connected RE System, exceeds the energy consumption of Consumer(s) during the billing period. This excess energy is settled as per relevant MPERC Regulations.

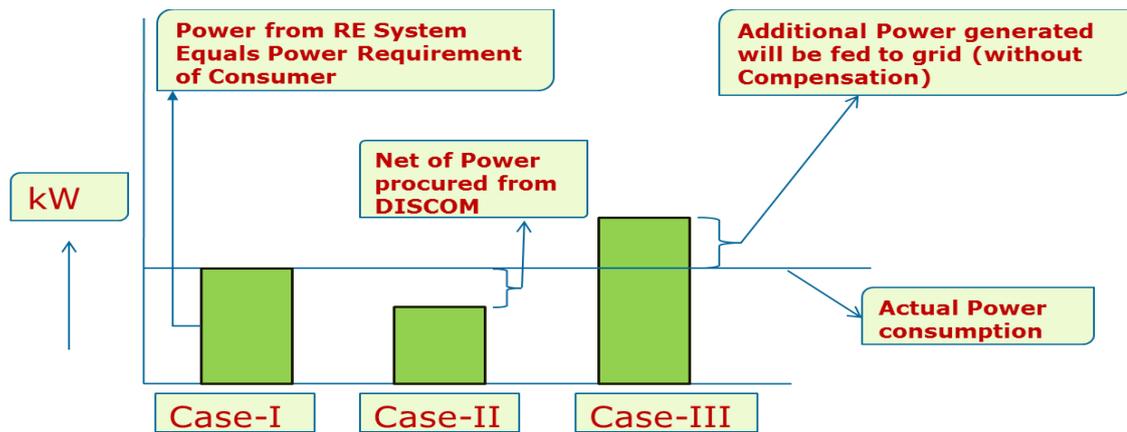
Case III:

In this case, energy available, after deducting wheeling and/or banking charges from the energy generated from Grid Connected RE System, is less than the energy consumption of Consumer(s) during the Billing Period. Therefore, the additional energy so required is imported from the grid by the Consumer(s) and is settled at the prevailing retail supply tariff as notified by MPERC.

5.3. Base Load Reduction (“Category-III”):

A Grid Connected RE System is installed in the Premises of RE Beneficiary to generate electricity, which would be entirely used for fulfilment of power requirement of the same Premises of the RE Beneficiary, without export of power whatsoever. In this case, there is no energy accounting between the RE Beneficiary and the grid.

Typical cases of power flow under this category at any instant are as explained below:-



Case I:

In this case, the instantaneous generation of power from the Grid Connected RE System equals the power requirement of the RE Beneficiary at that instant. Hence, there is no requirement of power from the grid and, therefore, the meter of the RE Beneficiary would record no flow of power at that instant.

Case II:

In this case, the instantaneous generation of power from the Grid Connected RE System is less than the power requirement of the RE Beneficiary at that instant. Hence, additional power required is imported from the grid. Accordingly, the RE Beneficiary's meter would record incoming flow of power at that instant.

Case III:

In this case, the instantaneous generation of power from the Grid Connected RE System is more than the power requirement of the RE Beneficiary at that instant. Hence, additional power so generated might flow into the grid. The RE Beneficiary would be encouraged to define size of its RE systems with respect to its load pattern, so that such a situation should not occur. The RE Beneficiary shall not be entitled to receive any consideration/benefit whatsoever against such export of energy into the grid. In such case, the RE Beneficiary shall also not be punished/ penalised for such instances. However, when the grid supply is off, supply of power from any such source shall be restricted within RE Beneficiary's premises and the RE Beneficiary shall be responsible to take adequate safety measures to prevent any flow of power to Distribution Licensee's grid.

5.4. **Off – Grid RE Systems**

An Off – Grid RE System is installed on the roof, open space, walls, agriculture farm, etc., of the RE Beneficiary to generate electricity. The electricity thus generated can be used to serve the load, which is not connected to the licensee’s network. The Consumer of RE need not be a Consumer of the licensee.

6. **APPLICABILITY OF THE POLICY**

- 6.1. This policy shall become applicable from the date of its notification in the Madhya Pradesh State Gazette.
- 6.2. The Policy shall cover the entire State of Madhya Pradesh.
- 6.3. The policy shall be applicable to all RE Beneficiaries, in whose Premises off–grid or grid connected RE Systems are installed, as defined in para 1.9, up to capacity of 2 MW of RE system, subject to MPERC Regulations in this regard.
- 6.4. The policy shall also be applicable to such RE Beneficiaries who have installed RE System before notification of this policy, subject to technical feasibility at Distribution Transformer / Sub-Station Level (if applicable) and fulfilment of laid down procedure under this policy.
- 6.5. Bulk Consumers, who are single point connection Consumers, are also eligible under this policy.
- 6.6. Persons or entities, who have relevant supply arrangements, even though they are not consumers of a Distribution Licensee, are also eligible under this policy. This includes those consumers who merely have a wheeling and/or banking arrangement with the licensee.
- 6.7. Through this policy, it is intended that all government owned buildings shall, in a phased manner, endeavour to avail benefit of this policy and participate in the nation’s drive for adopting green energy technologies.
- 6.8. As defined in para 1.9 above, RE Systems under this policy can operate in the following ways:

6.8.1. **Net Metered RE Systems (“Category –I”)**

The policy shall be applicable to RE Beneficiary, who installs RE Systems under Net Metering Arrangement as per MPERC (Grid Connected Net Metering) Regulations, 2015. Generally, such RE Systems shall be located in the Premises of RE Beneficiary. In case of multi storied buildings, residential colonies, commercial buildings, etc., the RE System could be located at common facility area; the same could supply to the bulk power connection or connection for common facilities therein, and, in other cases, without hindering or encroaching upon the lawful rights of the other occupants.

6.8.2. Gross Metering with wheeling & banking (“Category –II”):

The policy shall be applicable where the RE is being supplied through wheeling or banking with the licensee’s network. Such energy can be consumed within the Premises and/or outside the Premises, where RE is being generated.

6.8.3. Base Load Reduction (“Category –III”):

The policy shall be applicable to RE Beneficiary, who installs RE system which supplies power for consumption within such Premises, where such RE System is installed. It is envisaged that, at no point in time, such system shall export power outside the Premises.

6.8.4. Off – Grid RE Systems

The policy shall be applicable to RE Beneficiary, who installs off-grid RE systems to serve the load, which are not connected to any licensee’s network.

7. CAPACITY LIMIT FOR RE SYSTEMS:-

7.1. Maximum capacity for the individual decentralized RE Systems by RE Beneficiary shall be limited as per para6.3 of the policy.

7.2. Net Metered RE system capacity limit by Distribution Transformer:

The maximum permissible cumulative capacity of all Net Metered RE systems, connected to a particular distribution transformer of the licensee’s grid, shall be equal to the rated capacity of the said distribution transformer, subject to MPERC (Grid Connected Net Metering) Regulations, 2015 and subsequent amendments thereof.

The Distribution Licensee shall offer the provision of Net Metering Arrangement with respect to applications received from the RE Beneficiary, who has already installed or intend to install RE Systems, and is connected to a particular distribution transformer, on a non-discriminatory ‘first come first serve’ basis.

In case the cumulative capacity of proposed Net Metered RE System(s) to be set up exceeds the limit specified in MPERC (Grid Connected Net Metering) Regulations, 2015, Distribution Licensee would strengthen the infrastructure, so as to accommodate the proposed RE System at the concerned Distribution Transformer as per the norms specified in the MPERC (Grid Connected Net Metering) Regulations, 2015 and subsequent amendments thereof. It is clarified that for LT Net Metered Consumer, the RE Beneficiary will not bear the cost of augmenting the infrastructure.

If a Net Metered RE system is installed in the Premises of a HT Consumer, subject to MPERC Regulations in this regard, the infrastructure would be upgraded by the Distribution Licensee at the cost of such Consumer.

The Distribution Licensee shall regularly update and consider enhancement of the available capacity of various distribution transformers for connecting RE Systems under Net Metering Arrangement, and shall provide information regarding the same on its website.

7.3. Net Metered RE System capacity limit due to very low consumption in the Premises:

If electricity consumption of the RE Beneficiary had been less than the minimum required under relevant consumer category, as specified by MPERC, for any consecutive four months over the last twelve months, the capacity of Net Metered RE System for such RE Beneficiary would be permitted under this policy only up to its contract demand/ sanctioned load (as applicable).

8. ENERGY ACCOUNTING AND COMMERCIAL ARRANGEMENTS FOR RE SYSTEMS:-

8.1. Arrangement for Category-I

Provisions for energy accounting and commercial arrangements of Net Metered RE Systems shall be as per MPERC (Grid Connected Net Metering) Regulations, 2015 and subsequent amendments thereof.

8.1.1. Provision regarding Surplus Energy Banked:-

Excess or surplus energy remaining unutilised at the end of the settlement period shall be compensated by the Distribution Licensee as per the MPERC (Grid Connected Net Metering) Regulations, 2015 and amendments thereof. Such units of electricity unutilised by the Net Metered Consumer shall be purchased by the Distribution Licensee at its Average Pooled Power Purchase Cost (“APPC”), as approved by the Commission for that year. The Distribution Licensee shall provide money credit equivalent to the amount payable to the Net Metered Consumer in the immediately succeeding Billing Period(s). In case RE beneficiary is not a retail consumer of Distribution Licensee, then direct payment should be made within immediately succeeding two months from the Settlement Period.

8.1.2. Metering Arrangement:-

The provisions for the metering arrangements will comply with MPERC (Grid Connected Net Metering) Regulations, 2015 and subsequent amendments thereof. The standards for the Generation Meter and Net Meter have been specified under Annexure – I, or as amended by MPERC/CEA.

The RE Beneficiary shall on his cost, procure the requisite LT/HT bidirectional meter/Net Meter as specified by Distribution Licensees or may opt to be provided through Distribution Licensee. Distribution Licensees will create and maintain the inventory for the requisite LT/HT bidirectional meter/Net Meter. In case the metres are not available with Distribution Licensee, RE Beneficiary may procure the same through Nodal Agency. The said Meter should be tested

and installed by Distribution Licensee or Distribution Licensee's authorized agency. The cost to procure the meters shall be borne by the consumer.

In case the meter becomes defective or burns during use, the same shall be replaced at the cost of Consumer.

The sealing of Net Meter shall be done by Distribution Licensee.

Usually, the power conditioning unit / inverter of the RE System has built-in provision of Generation Meter in accordance with the minimum technical standards set by Ministry of New and Renewable Energy, GoI.

In case of tampering with a Net Meter or any other meter interfacing with the Distribution Licensee's network outside premise, action would be taken under clauses 126, 135, 136 and 138 of Electricity Act, 2003. These provisions shall not be applicable for the Meters interfacing within RE Beneficiary's premises.

8.2. Arrangement for Category – II

Provisions for energy accounting and commercial arrangements of RE Systems installed under this category shall be as follows:

- 8.2.1. The RE Beneficiary shall have the right to avail facility of open access, in terms of Sub-Clause (i) of Clause 3.3 of Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Intra-State Open Access in Madhya Pradesh) Regulations, 2005, as amended in October, 2006. RE Beneficiary shall sign wheeling agreement with the licensee;
- 8.2.2. Energy banking provision of RE Systems shall be in accordance with MPERC (Cogeneration and Generation of Electricity from Renewable Sources of Energy) (Revision-I) Regulations, 2010 and subsequent amendments thereof;
- 8.2.3. The energy can be consumed anywhere in the state to one or more consumers, including the Premises of the RE Beneficiary. In the case of multiple consumers, credit from the generation meter can be provided into individual bills of the RE beneficiaries as per the allocation defined by the generator. The concerned Distribution Licensee shall implement such allocation as and when

communicated by the generator. However, the applicable wheeling/ banking charges would have to be paid to the Distribution Licensee.

- 8.3. Metering equipment, as specified by concerned Distribution Licensee, shall be installed at the Premises in accordance with the provisions of M.P. Electricity Supply Code, 2013 and CEA regulations for metering at the cost of the RE Beneficiary.
- 8.4. RE Beneficiaries of this policy, who fall under consumer categories for which the charges on drawing reactive energy from grid are defined by MPERC, shall be required to pay such charges as per prevailing tariff and relevant provisions.

9. **TECHNICAL STANDARDS:-**

- 9.1. All RE Systems, with or without storage, conforming to the technical specifications specified by MNRE/ CEA/ MPERC/ Nodal Agency, will be eligible for incentives available under this policy. Nodal agency, its authorized agency/individuals shall verify the compliance of the same. Standards for solar photovoltaic system are at Annexure – II, subject to amendments in standards specified by MNRE/ CEA/ MPERC/ Nodal Agency from time to time.
- 9.2. If an RE Beneficiary opts for connectivity with a battery back-up/decentralized generator/diesel generator, then the RE System should be equipped with all necessary automatic isolation arrangement for preventing the flow of power into the grid in the absence of grid supply.
- 9.3. All the components of Grid Connected RE Systems should comply with relevant IEC/ BIS standards. Inverter should monitor the grid condition continuously and, in the event of grid failure or under voltage/ over voltage, Grid Connected RE System should automatically get disconnected by the circuit breaker/ auto switch provided in the control panel. Further, the RE System is required to have automatic in-built provision for synchronization.
- 9.4. For preventing the flow of power into the grid in the absence of grid supply, Distribution Licensee on its cost shall provide Manual isolation arrangement outside the Premises of RE Beneficiary. Once the grid supply is restored and in case the manual isolation arrangement had to be operated, Distribution Licensee shall ensure that the Premises of RE Beneficiary is reconnected with the network at the earliest.

10. **STANDARDS OF INTERCONNECTION, OPERATION AND MAINTENANCE OF GRID CONNECTED RE SYSTEM**

The Interconnection, operation and maintenance of Grid Connected RE System and equipment will conform to the following Regulations and Codes, as amended from time to time:

- a. Central Electricity Authority (Technical Standards for connectivity of the Distributed Generating Resources) Regulations, 2013.
- b. Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006.
- c. Central Electricity Authority (Measures relating to safety and electric supply) Regulations, 2010
- d. Madhya Pradesh Electricity Supply Code, 2013.
- e. Any other relevant amendments and regulations as notified by MPERC/Other government agencies.

The technical requirement for interconnection of the grid connected RE system with the network of the Distribution licensee is specified in Annexure – III, subject to any amendments by CEA.

- 10.1. The Connectivity of the Net Meter of Category –I Net Metered Consumer at various levels of supply voltage shall be as per provisions of applicable codes / regulations of MPERC, CEA (measures relating to safety and electric supply) Regulation 2010, IE Rules 1956 and subsequent amendments thereto.

In case an HT Consumer (connected at 11kV & above), subject to Regulations in this regard, installs Net Metered RE Based System, it could inter-connect such RE System at its LT side at multiple locations. However, the Net Meter shall be installed on HT side of the transformer. Typical Single Line Diagrams (SLDs) for different voltage levels for interconnection of the Net Metered RE System with the network of the Distribution licensee are shown at Annexure– IV.

- 10.2. The Connectivity of Category – II and Category – III RE Systems shall be as per Madhya Pradesh Electricity Regulatory Commission (Cogeneration and Generation of

Electricity from Renewable Sources of Energy) (Revision-I) Regulations, 2010 and subsequent amendments thereto. Inter-connection of such RE System may be allowed to at Low Voltage or 11/33/132 kV as per MPERC's regulations, if found technically feasible by the licensee.

10.3. Distribution licensee shall indicate interface/interconnection point and metering point in the Single Line Diagram (SLD).

10.4. In compliance with Rule 47(A) of Indian Electricity Rules, 1956 as applicable in Madhya Pradesh, installation of Grid Connected RE System up to 10 kW capacity is exempt from Chief Electrical Inspector to Government (CEIG) approval. In light of this, Distribution licensees may inspect Grid Connected RE System up to 10 kW capacity. However, such exemption shall be as per prevailing notifications/guidelines of GoMP/MPERC/CEA.

11. SAFETY OF GRID AND RE SYSTEMS

11.1. The Grid Connected RE Beneficiary shall be responsible for safe operation, maintenance and rectification of defect of its system up to the interconnection point. The licensee has a responsibility of safe operation, maintenance and rectification of any defect beyond the Premises (excluding the net meter). The ownership of the Net Meter shall rest with the consumer, who shall be liable to pay any costs incurred by the licensee during the operation, maintenance and rectification of the Net Meter.

11.2. The RE Beneficiary shall be responsible for any accident to human being/ animals, whether fatal/nonfatal or departmental /non-departmental that may occur due to back feeding from the Grid Connected RE System when the grid supply is off. The Distribution Licensee would have the right to disconnect the RE Beneficiary's Premises at any time in the event of such exigencies to prevent accident or damage to man and material. In such a situation, any alternate source of supply shall be restricted to such Beneficiary's Premises and the RE Beneficiary shall be responsible to take adequate safety measures to prevent flow of power to Distribution Licensee's grid.

11.3. The Grid Connected RE System should be capable of detecting an unintended islanding condition. These RE Systems must have islanding protection to prevent any unfavourable conditions, including failure of supply.

- 11.4. Distribution Licensees would be required to clearly identify and mark the transformers with the connections of RE Systems and would be required to have isolation mechanism at transformer level, in addition to the auto cut-off mechanism which would be provided in the RE Beneficiary's Premises.
- 11.5. In emergency or outage situation, when there is no access to disconnect (neither automatic switch nor breaker), licensee may disconnect the Premises of the RE Beneficiary for such period.

12. MONITORING & PERFORMANCE EVALUATION:-

- 12.1. 'Net Metered Consumer is required to install a separate Generation Meter at the Premises at his own cost, as per prescribed standards (Annexure –I), in case the generation metering arrangement is not provided in the Power Conditioning Unit/ Inverter of the RE System.
- 12.2. All RE Systems, which are subsidized either by Government of India and/or Government of MP, will be subject to monitoring and evaluation by Nodal Agency to measure performance of the RE System, as per the benchmarks set by Nodal Agency from time to time. In case the RE System fails to achieve desired performance, such RE Beneficiary would have to face penalties and consequences, as may be decided by Nodal Agency from time to time.

13. Framework for Implementation through RESCO (Renewable Energy Services Company)

- 13.1. Installation of RE System under the Policy can be done by a RESCO on mutually agreed terms with the RE Beneficiary. Power generated from such RE System would be supplied to the RE Beneficiary and any consumer, as per any of the operating modes specified in para 1.9 of this policy. As regards consumers as specified under Category-I and III, the RESCO would enter into a Power Purchase Agreement ("Agreement") with the RE Beneficiary to sell metered units of electricity at a mutually agreed price. Such RE Beneficiary will effectively buy electricity from two sources: daytime power (in case of a solar system) from the RESCO, and remaining daytime plus night-time power from other sources. In case of consumers under Category-II and off-grid model, the power would be generated by the RESCO and the consumer can dispose the power in accordance with the extant policies.

13.2. Further, in accordance with the Agreement between the RESCO and such RE Beneficiary, the RESCO could be responsible for all O&M service through the term of the Agreement. The RE Beneficiary might not be required to pay either for capital expenditure or for O&M expenses, and such RE Beneficiary might only pay the RESCO for units of electricity consumed from the RE System. The compensation from Distribution Licensee for the excess generation at the end of Settlement Period, if any, would flow to the RE Beneficiary. The RESCO model could be configured in inter alia the following structures:

- a. Build Own Operate Maintain (BOOM), wherein the RESCO will purchase and permanently own the RE System for the term of the Agreement, and supply power to the RE Beneficiary for the life of Agreement. RESCO shall uninstall the RE System once the term of the Agreement is completed and restore the roof as it was before installation of RE System; and
- b. Build Own Operate Transfer (BOOT), wherein the RESCO will finance, develop and own the RE System and supply power to the RE Beneficiary for the life of Agreement. At some time in future, the RE System would be transferred to the RE Beneficiary as per the terms defined in the agreement, which can be - without any proceeds, one time proceed, gradual payment of proceeds over life, etc. Subsequently, the responsibility for O&M shifts to the RE Beneficiary, who may reappoint RESCO at mutually agreed terms.

14. INCENTIVES :-

14.1. Incentives applicable to all RE Systems installed under any of the ways defined in para1.9 of this policy are as follows:

- 14.1.1. **Open Access:** Facility of Open Access will be available to all RE Systems, in terms of Sub-Clause (i) of Clause 3.3 of Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Intra-State Open Access in Madhya Pradesh) Regulations, 2005, as amended in October, 2006.
- 14.1.2. **Wheeling charges:** Facility of wheeling will be available to all RE Systems, as per wheeling charges specified by MPERC. For above wheeling charges, GoMP will provide a grant of four percent (4%) in terms of energy injected and the balance, if any, shall be borne by the RE beneficiary.

- 14.1.3. **Banking:** Banking shall be permitted in accordance with MPERC (Cogeneration & Generation of Electricity from Renewable Sources of Energy) Regulations, 2010 and its amendments thereof.
- 14.1.4. **Cross Subsidy Surcharges:** RE Systems under this Policy shall be exempted from cross-subsidy charges, subject to relevant regulations of MPERC and amendments thereof.
- 14.2. The Net Metered RE System under this Policy shall be exempted from banking charges and wheeling charges, subject to MPERC (Grid Connected Net Metering) Regulations, 2015 and amendments thereof. It is clarified that the exemption is not available for Category II, Category III and off-grid systems.
- 14.3. **Minimum Consumption:** In the cases where the Distribution Licensee is getting the benefit of RPO on account of consumption of renewable energy from RE system by a consumer, the Distribution Licensee shall add energy generated by the RE System to the net imported energy, while determining such consumer's adherence to the minimum consumption required in accordance with MPERC's orders.
- 14.4. No electricity duty or cess would be applicable on the Producer of Renewable Energy/RE Beneficiary/Consumer/Licensee for supply/sale/consumption of Renewable Energy from such system installed under this policy for a period of 10 years from the date of commencement of supply by RE System. Further, RE Beneficiary connected at LT level would enjoy such exemption for the lifetime of the RE System.
- 14.5. RE Beneficiaries can avail Central Financial Assistance of MNRE, in addition to the subsidy made available by Government of Madhya Pradesh, Department of New & Renewable Energy (specified for relevant consumer categories), on meeting the eligibility conditions and the procedure prescribed. Nodal Agency shall process the request and release the state / central subsidy.
- 14.6. RBI guidelines have provisions that allow banks to provide loans for installation of RE Systems. Further, banks have policies to include cost of RE System in the total cost of housing project for consideration of loan, and there is no need of hypothecation beyond the asset created under the loan.

- 14.7. Installation of RE System in the Premises of RE Beneficiary would not be considered under eligible Floor Area Ratio (FAR) calculation. It will also allow the RE Beneficiaries an additional Floor Area Ratio (FAR) for construction in the Premises according to capacity of the RE System installed, as laid down by Urban Development & Housing Department, GoMP in Madhya Pradesh Land Development Rules, 2012.
- 14.8. The height of the RE System would not be considered in computing total height of the building. Provision for the same would be made by Urban Development & Housing Department, GoMP in Madhya Pradesh Land Development Rules, 2012.
- 14.9. No registration fee shall have to be paid to the Nodal Agency.

15. TAX EXEMPTIONS OF STATE GOVERNMENT:-

- 15.1. RE Generating System installed under this policy shall not be treated as “construction”, and, therefore, would not attract any additional liability of property tax for installation of RE Systems on their rooftops or Premises.
- 15.2. The equipment/parts purchased for installation/repairs/maintenance of RE System under this policy shall be exempted from VAT and entry tax, as per the exemption granted to these systems under Madhya Pradesh VAT (Amendment) Act – 2009 and subsequent amendments thereof.

16. RENEWABLE PURCHASE OBLIGATION (RPO)

- 16.1. The quantum of energy produced from the RE System of a Net Metered Consumer, who is not defined as an Obligated Entity, shall qualify towards compliance of Renewable Purchase Obligation (RPO) for the Distribution Licensee in whose area of supply the Net Metered Consumer is located. This shall include the energy consumed by the Net Metered Consumer during the settlement year, as well as the surplus remaining at the end of the settlement period, which is effectively procured by the Distribution Licensee.
- 16.2. The Distribution Licensees shall be required to have systems in place for remote reading of the Generation Meter for ascertaining the quantity of electricity generated by a RE System under Net Metering arrangement. Till that time, the generation would be computed using Normative CUF, to be decided jointly by New and Renewable Energy Department and Energy Department.

16.3. In case the Consumer is an Obligated Entity, the quantum of electricity consumed from the RE System(installed under any of the Categories specified in para1.9 of this policy) shall be counted towards meeting his RPO.

17. RENEWABLE ENERGY CERTIFICATES (REC)

The issuance of Renewable Energy Certificate shall be as per the eligibility criteria specified under Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 and subsequent amendments thereof.

18. EMPANELMENT OF TECHNOLOGY FACILITATORS / DEVELOPERS / AGENCIES / EQUIPMENTSUPPLIERS

For standardization of quality of RE System and to enable easy installation of RE Systems, Nodal Agency would empanel technology facilitators / developers / agencies / person executing the work, and equipment for implementing RE Systems, after thorough due diligence. Nodal Agency shall consider proposals for empanelment, which shall be periodically reviewed by Nodal Agency. Interested parties can proactively apply, along with necessary documents, for being added in the empanelled list as technology facilitators/developers/agencies/person executing the work.

19. REGISTRATION & PROCESSING PROCEDURE

19.1. For RE Beneficiary under Category – I (Net Metered Consumers):-

- a. The Application Form (as per enclosed Annexure–V-A) can be collected or downloaded from concerned Distribution Licensee’s office/website or Nodal Agency’s office/Website.
- b. RE Beneficiary or on his/her/its behalf RESCO or EPC Company or their authorized representative, may apply to the Distribution Licensee for general and technical screening for interconnection along with registration fee of Rs 1,000.
- c. On receiving the application form, the Distribution Licensees will register the application form and should electronically issue an acknowledgement receipt (as per enclosed Annexure–VI-A) with unique registration number to RE

Beneficiary for tracking of application form on 'first come first serve' basis with a copy to Nodal Agency.

- d. The Distribution Licensee will examine the request on the basis of relative capacity of the proposed RE System with the distribution transformer as per the provision of Para 7.1 of the policy.
- e. If the interconnection is feasible, the Distribution Licensee will issue 'approval letter' (as per enclosed Annexure –VII-A) to the RE Beneficiary to install the proposed RE System.
- f. RE Beneficiary or on its behalf RESCO or EPC Company or their authorized representative shall register the RE System with the Nodal Agency after receiving the approval letter from the Distribution Licensee.
- g. The RE Beneficiary, after receipt of 'approval letter', shall sign the Net Metering Inter Connection Agreement and submit the same to the Distribution Licensee. (As per enclosed Annexure –VIII-A).
- h. The RE Beneficiary may apply to Nodal Agency for the processing of subsidy in the formats prescribed on the website of MNRE &Nodal Agency.
- i. The RE Beneficiary or Nodal Agency on his behalf will identify and finalise the appropriate contractor/system integrator/Nodal Agency's empanelled vendor for installing RE System.
- j. The above said approval shall be valid for 180 days from the date of issue of approval letter and the RE System shall be required to be commissioned within this period. The progress of installing the system shall be monitored by Nodal Agency or its authorized officer and, if desired progress is not observed, Nodal Agency may recommend Distribution Licensee to cancel the approval. However based on progress of system installation, Nodal Agency may recommend Distribution Licensee for extension of the approval
- k. On completion of RE System installation, RE Beneficiary will inform the Distribution Licensee and Nodal Agency through Work Completion Report, as per enclosed Annexure –IX.

- l. RE System up to 10 kW capacity is exempt from CEIG approval, as stated in Para 10.4 of this policy.
- m. On the receipt of Work Completion Report, Distribution Licensee will finally approve the synchronisation of RE System with the grid and issue the commissioning certificate.
- n. Subsidy, if applicable, shall be released to Net Metered Consumer, subject to sanction and release by concerned government authorities.

19.2. For RE Beneficiary other than Category – I:-

- a. The Application Form (as per enclosed Annexure –V-B) can be collected or downloaded from Nodal Agency's office/Website.
- b. RE Beneficiary or on his/her/its behalf RESCO or EPC Company or their authorized representative, will apply for registration to the Nodal Agency for general and technical screening of the RE System components.
- c. On receiving the application form, the Nodal Agency will register the application form and should electronically issue an acknowledgement receipt (as per enclosed Annexure – VI- B) with unique registration number to RE Beneficiary for tracking of application form.
- d. The Nodal Agency shall forward the request along with the copy of registration form to the concerned office of the Distribution Licensee for examining the feasibility for the interconnection of RE System. (Applicable for Category-II& Category- III.)
- e. If the interconnection is feasible, the Distribution Licensee and RE Beneficiary will execute the Power Purchase & Wheeling Agreement (PPWA). (Applicable only for Category-II)
- f. The RE Beneficiary may apply to Nodal Agency for the processing of applicable subsidy in the formats prescribed on the website of MNRE & Nodal Agency.
- g. The RE Beneficiary will identify and finalise the appropriate contactor/system integrator/Nodal Agency's empanelled vendor for installing RE System.

- h. The above said registration shall be valid for 240 days from the date registration and the RE System shall be required to be commissioned within this period. The progress of installing the system shall be monitored by Nodal Agency or its authorized officer/agency and if desired progress is not observed, Nodal Agency may cancel the registration. However, based on progress of RE System installation, Nodal Agency may grant extension of the approval (Applicable for Category-II)
- i. The progress of installing the RE System shall be monitored by Nodal Agency or its authorized officer/agency.
- j. On completion of RE System installation, RE Beneficiary will inform the Distribution Licensee and/or Nodal Agency through Work Completion Report, as per enclosed Annexure - IX.
- k. RE System up to 10 kW capacity is exempt from CEIG approval, as stated in Para 10.4 of this policy.
- l. On the receipt of Work Completion Report, Distribution Licensee will finally approve the synchronisation of RE System with the grid and issue the commissioning certificate. (Applicable for Category-II and III)
- m. On the receipt of Work Completion Report, Nodal Agency will finally issue the commissioning certificate. (Applicable for off-grid)
- n. Subsidy, if applicable, shall be released to RE Beneficiary, subject to sanction and release by concerned government authorities.

19.3. The formats enclosed for Distribution Licensee are model formats. If required, Distribution Licensee may request the administrative department to amend the same to suit local requirement. Such formats shall be hosted on the website of the administrative department and respective Distribution Licensees.

20. **MIGRATION FROM EXISTING RE POLICIES**

All those RE Beneficiaries, who have registered their RE projects with New and Renewable Energy Department, GoMP under existing solar/wind/biomass policies

before notification of this policy, shall be eligible to migrate from existing RE policies to this policy, subject to fulfilment of criteria as indicated in this policy.

21. **POWER TO CLARIFY AND AMEND**

This policy authorizes the administrative department to issue orders clarifying and/or interpreting the provisions of this policy. **The department is also authorized to modify the policy, based on provisions of MPERC (Grid Connected Net Metering) Regulations, 2015 or guidelines or directions issued by the Government of India or the Government of Madhya Pradesh, so as to streamline implementation of the program.** The department could modify the Annexures to the Policy to enhance 'ease of doing business' in MP.