

Madhya Pradesh Policy for Rooftop Renewable Energy Projects, 2016

1. PREAMBLE

- 1.1** To harness the abundantly available renewable energy potential in the state, the Government of Madhya Pradesh wishes to encourage the development of decentralised renewable energy installations (projects and applications) through this policy document. With the recent technological advances in the sector and the achievements in the space of large scale renewable energy based power generation, green energy has emerged as a viable and sustainable alternative to electricity produced from fossil fuel.
- 1.2** Amongst Renewable Energy sources of generation, solar energy is by far the most favourable and 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 renewable energy generation and, hence, is expected to become the most popular option for harnessing renewable energy amongst consumers and small independent power producers.
- 1.3** The state of Madhya Pradesh is endowed with more than 300 clear, sunny days with solar radiation with average solar irradiation of ~ 5.5 kWh/m²/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** This policy documents builds on the “Madhya Pradesh Solar Policy, 2012”, which under clause 5(b), section-I states an intention to promote decentralised solar energy generation on a large scale.
- 1.5** The policy also finds favour with the overall sectoral development in the country, with the National Solar Mission (NSM) envisaging the development of 40 GW of grid connected solar rooftop installations by 2022. This policy document also has high synergies with another key focus area of the Government of India – 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 shortlisted three cities now in the State, to be developed as “Smart Cities”.

- 1.6** The facilitative policy and regulatory framework, both at Central and State level, 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 stakeholders. This trend is now being seen amongst retail investors and energy consumers as well, who see a huge potential for installation of renewable energy technologies, especially solar PV installations, either on rooftops or within the consumer’s own premises, including parking lots, agricultural farms, etc. for meeting their own (captive) energy requirements and addressing their energy security needs.
- 1.7** 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

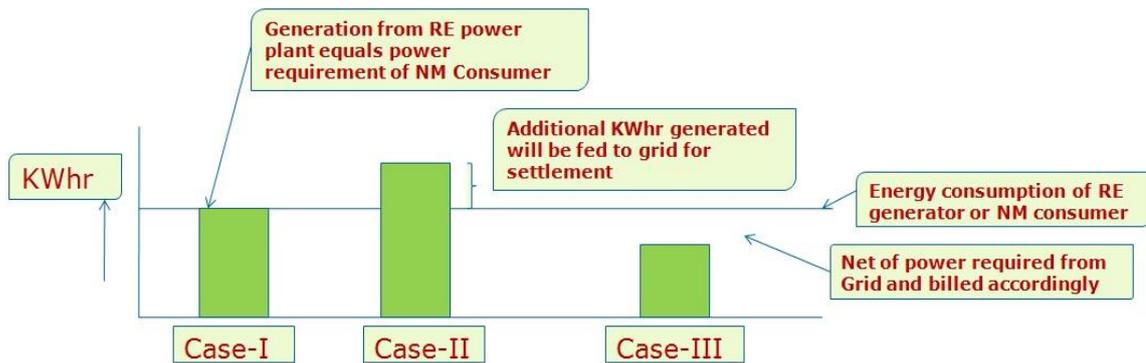
- 1.8** The Government of Madhya Pradesh in its endeavour to promote rooftop Renewable Energy Systems would encourage them to operate in the following ways:
- a. Grid Connected Renewable Energy Systems
 - i. Category I : On Net Metered basis

- ii. Category II : On Gross Metered basis through wheeling & banking for captive use and/or third party sale
- iii. Category III : Captive installation with no export of energy

b. Off - Grid Renewable Energy Systems

1.9 Net Metered Renewable Energy Systems (“Category –I”)

A Grid Connected Renewable Energy System is installed on the roof, open space, walls, agriculture farm, etc., i.e., within the legal premises of the customer, to generate electricity. The electricity so generated is first used for captive requirement and the surplus power (if any) is fed to the grid of distribution licensee. In case power requirement of the building is more than the Renewable Energy power being generated, the extra power requirement is drawn from the grid. Renewable Energy system’s operation in ‘Net Metering’ mode is explained below:-



Case-I

In this case, the generation of energy from Net Metered Renewable Energy System equals the captive energy requirement of the Net Metered Consumer (on whose premises the Renewable Energy System is installed). There is no net export or import of energy from the grid and, therefore, the net billing (in terms of units) in this case would be zero for that Billing Period.

Case-II

In this case, generation of power from Net Metered Renewable Energy System exceeds the captive energy requirement of the Net Metered Consumer. The surplus energy exported to the grid, can be settled against forthcoming Billing Periods within the

settlement period, as provided in the MPERC (Grid Connected Net Metering) Regulations, 2015.

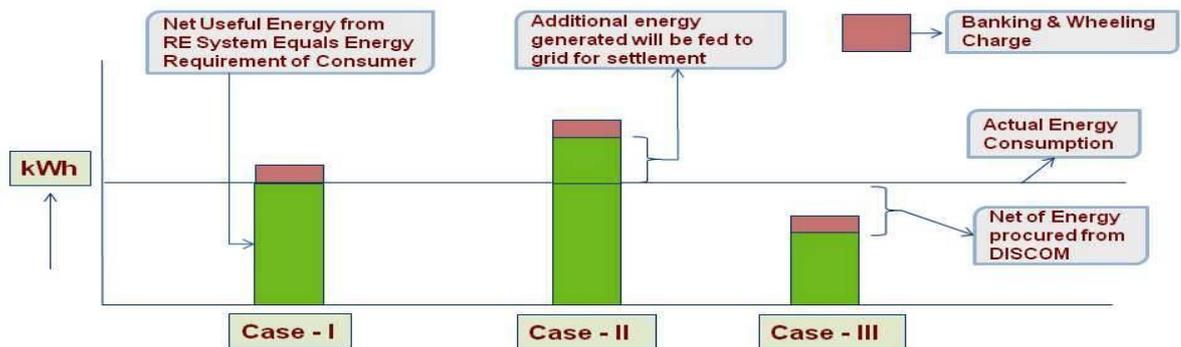
Case-III

In this Case, generation of energy from Net Metered Renewable Energy System is less than the captive 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.

1.10 Renewable Energy Systems Installed on gross metered basis for captive use and/or third party sale through wheeling and banking (“Category –II”)

A Grid Connected Renewable Energy System is installed by the producer on the roof, open space, walls, agriculture farm, etc., to generate electricity. The entire energy generated is fed into the grid through gross metering. The energy so generated is used for fulfilment of captive requirement and/or is sold to third party through mutually agreed terms using the principles of wheeling and banking with the grid. The captive consumption could be at the same location as the Renewable Energy System or anywhere else in the state.

Typical cases under this category are as explained below, wherein the Renewable Energy Beneficiary can be the producer himself at the same or a different location, or can be a third party:-



Case I:

In this case, energy available after deduction of wheeling and banking charges from the generation of Grid Connected Renewable Energy System equals the energy

requirement of Renewable Energy Beneficiary over the billing period. The billing (in terms of units) for Renewable Energy Beneficiary in this case will be zero for that particular billing period.

Case II:

In this case, energy available after deduction of wheeling and banking charges from the generation of Grid Connected Renewable Energy System exceeds the energy consumption of Renewable Energy Beneficiary during the billing period. This excess energy is settled as per MPERC Regulations.

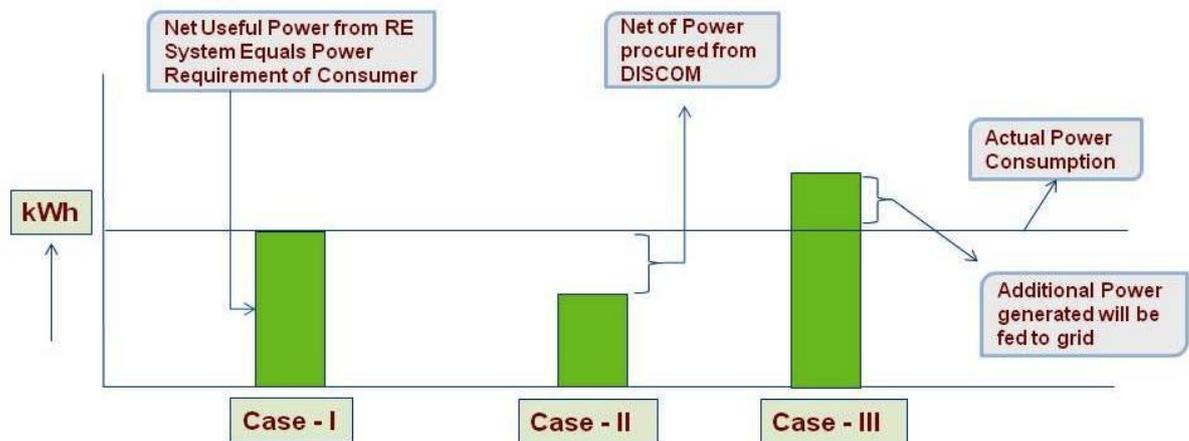
Case III:

In this case, energy available after deduction of wheeling and banking charges from the Grid Connected Renewable Energy System is less than the energy consumption of Renewable Energy Beneficiary during the Billing Period. Therefore, the additional energy so required is imported from the grid by the Renewable Energy Beneficiary and is settled at the prevailing retail supply tariff.

1.11 Captive installation with no export of energy (“Category-III”)

A Grid Connected Renewable Energy System is installed on the roof, open space, walls, agriculture farm, etc., of the Renewable Energy beneficiary to generate electricity for fulfilment of captive requirement of the premises of the Renewable Energy beneficiary, without export of power whatsoever. In this case, there is no energy accounting between the Renewable Energy beneficiary and the grid.

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



Case I:

In this case, at that instant, the generation of power from the Grid Connected Renewable Energy System equals the power requirement of the Renewable Energy beneficiary at that instant. Hence, there is no requirement of power from the grid and, therefore, the meter of the Renewable Energy beneficiary would have zero reading at that instant.

Case II:

In this case, generation of power from the Grid Connected Renewable Energy System is less than the captive power requirement of the Renewable Energy Beneficiary at that instant and, hence, additional energy required is imported from the grid and the Renewable Energy Beneficiary's bill would record accordingly.

Case III:

In this case, generation of power from Grid Connected Renewable Energy System is more than the captive power requirement of the Renewable Energy Beneficiary. Additional power so generated might flow into the grid. The Renewable Energy Beneficiary would be encouraged to size the plant with respect to their pattern of consumption, so that such a situation should not occur. The Renewable Energy Beneficiary shall not be entitled to receive any consideration/benefit whatsoever against such export of energy into the grid. In such case, the Renewable Energy Beneficiary shall also not be punished/ penalised for such event. However when the grid supply is off, any alternate source of supply shall be restricted to the Renewable Energy Beneficiary's network and the Renewable Energy Beneficiary shall be responsible to take adequate safety measures to prevent flow of power to distribution licensee's grid.

1.12 Off – Grid Renewable Energy Systems

A Off – Grid Renewable Energy System is installed on the roof, open space, walls, agriculture farm, etc., to generate electricity. The electricity thus generated can be used to serve the off-grid load.

1.13 With the view of promoting development and deployment of decentralized and distributed renewable energy systems in the state of Madhya Pradesh, especially solar PV rooftop systems and other Renewable Energy Systems, the Department of New and

Renewable Energy, Government of Madhya Pradesh hereby notifies the ‘**Madhya Pradesh Policy for Rooftop Renewable Energy Projects, 2016**’.

- 1.14** The policy intends to promote consumption of captive energy generation, and third party sale through wheeling and banking of energy generated from renewable energy 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.
- 1.15** While this policy aims to promote all decentralized and distributed renewable energy technologies and is technology neutral, for the purposes of discussion and application, the focus would be mostly on decentralized and distributed solar PV rooftop installations, 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 installations are already meeting grid parity for commercial and industrial applications, and will also meet grid parity with residential consumer tariffs over the next three to five 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.
- 1.16** As stated above, the focus of the policy will be on solar PV rooftop installations and, hence, all key provisions, like interconnection framework, technical specifications, etc. have been adopted keeping solar PV rooftop 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.
- 1.17** Systems incorporating various Renewable Energy Technologies in Hybrid mode are also allowed in this Policy.

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 a Renewable Energy Beneficiary who is a consumer of electricity in the area of supply of the Distribution Licensee and who uses the renewable energy system installed in his premises under Net Metering principles, or for fulfilment of captive requirement of the same premises where the renewable energy system is installed or for fulfilment of captive requirement /selling electricity to third party through Open Access, using wheeling and banking with the grid.
- 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 a meter used for accounting of energy generated from Renewable Energy System;
- e. **“Inter-connection Point”** means the interface of renewable energy generation facility system with the network of distribution licensee;
- f. **“Installation”** means any composite electrical unit used for the purpose of generating, transforming, transmitting, converting, distributing or utilizing energy.
- g. **“Net Metering Arrangement”** means an arrangement under which renewable energy 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;
- h. **“Net Metered Consumer”** means a consumer, who uses the renewable energy system installed in the Consumer’s 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. **“Normative CUF”** is the Capacity Utilization Factor decided differently for each renewable energy technology at which a Renewable Energy System employing that technology should function, and the CUF shall be decided jointly by New and Renewable Energy Department and Energy Department;
- j. **“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 ;
- k. **“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.
- l. **“Premises”** means any land, agricultural farm, building or structure or part thereof or combination thereof for which a separate meter or metering arrangements has been made by the licensee for billing of electricity;
- m. **“Renewable Energy Beneficiary”** means a person or organization who installs a Renewable Energy System in his premises given that such systems are self-owned or third party owned;
- n. **“Renewable Energy System”** means the grid connected or off grid system to generate electricity from such source(s), which are recognized as renewable energy 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;
- o. **“Renewable Energy Meter” or “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.

- p. **“RESCO (Renewable Energy Services Company)”** means a person or an entity having adequate financial & technical resources and which provides energy to a Renewable Energy Beneficiary from Renewable Energy System set up in the Premises of the Renewable Energy Beneficiary on mutually agreed terms.

Words and expressions used in these 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. To encourage broader community involvement and growth of decentralized Renewable Energy 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 Renewable Energy 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. 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) has issued regulations for the Net Metering of RE installations in the state; vide notification no.G-39 of 2015. MPERC has also issued a notification for Cogeneration and Generation of Electricity from Renewable Sources of Energy (Revision-I) Regulations, 2010 vide notification no. 3042 of 2010.
- 4.3. In case of any discrepancy between the provisions of this policy and the Electricity Act 2003, or orders or regulations of the Commission, at present or in future, the provisions of the Act and orders/regulations of the Commission shall prevail.

5. GUIDING PRINCIPLES OF THE POLICY

5.1. Operative Period:-

The policy shall become applicable from the date of its notification in the Madhya Pradesh State Gazette.

5.2. Applicability Of The Policy:-

- a. The Policy shall extend to the entire State of Madhya Pradesh. The policy shall be applicable to all Renewable Energy Beneficiaries, both off –grid and grid connected Consumers. As regards grid connected consumers, it shall cover the Consumers as defined in 2(b) above. The policy shall also be applicable to such Renewable Energy beneficiaries that have installed Renewable Energy 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. Bulk consumers, i.e., single point connection consumers and persons or entities who are not consumers of electricity supplied by any distribution licensee are also covered in this policy.
- b. Through this policy it is intended that all the government owned buildings shall, in a phased manner, avail benefit of this policy and demonstrate their concern in participating in the nation’s drive for adopting green energy technologies.

5.2.1.Net Metered Renewable Energy Systems (“Category –I”)

The policy shall be applicable to all Net Metered Consumers of Renewable Energy Systems adopting Net Metering in accordance with MPERC (Grid Connected Net

Metering) Regulations, 2015. The Renewable Energy System shall be located in the Consumer Premises or in common facility area in case of multi storied buildings.

5.2.2. Renewable Energy Systems Installed for captive use and/or third party sale through wheeling and banking (“Category –II”)

The policy shall be applicable to all generators of Renewable Energy Systems, who are supplying renewable energy generated, availing facility of wheeling or banking it with the grid, for fulfilment of captive requirement or selling electricity to third party at mutually agreed terms.

5.2.3. Captive installation with no export of energy (“Category –III”)

The policy shall be applicable to all generators of Renewable Energy Systems, who are using renewable energy generated, for fulfilment of captive requirement of the premises where the Renewable Energy System is installed.

5.2.4. Off – Grid Renewable Energy Systems

The policy shall also be applicable to all off-grid Renewable Energy Systems installed to serve the off-grid load.

6. FOCUS OF THE POLICY

This policy aims to promote all rooftop renewable energy, including Net Metered Renewable Energy Systems, Renewable Energy Systems for captive use or third party sale and Off – Grid Renewable Energy Systems. However, the main focus of the policy would be on Net Metered Renewable Energy Systems.

7. CAPACITY CAP FOR NET METERED RENEWABLE ENERGY SYSTEMS:-

7.1. Capacity Limit at Distribution Transformer:

The maximum permissible cumulative capacity of all Net Metered Renewable Energy Installations, connected to a particular distribution transformer of the grid, shall be as per the 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 to the Consumer who has already installed or intends to install a

Renewable energy System and is connected to a particular distribution transformer on a non-discriminatory 'first come first serve' basis.

In case of the cumulative capacity of proposed Net Metered Renewable Energy System to be set up exceeds the limit specified in MPERC (Grid Connected Net Metering) Regulations, 2015, distribution licensee would firstly attempt to connect the Net Metered Consumer to another distribution transformer, wherein the cost of the shift would be borne by the Net Metered Consumer, If such a shift is not possible, the distribution licensee shall work with Net Metered Consumer and/or MPUVN to analyse the investment required for strengthening the infrastructure, so as to bring the relative capacity of the proposed Renewable Energy System and the concerned Distribution Transformer within the norms prescribed in the MPERC (Grid Connected Net Metering) Regulations, 2015. For all HT consumers, the infrastructure would be upgraded by the distribution licensee at the behest of Net Metered Consumer and/or MPUVN only if the required investment (without any associated service charge of the distribution licensee) is paid by Net Metered Consumer and/or MPUVN to the distribution licensee. As regards LT systems the cost of augmenting the infrastructure shall be shared as follows:

- i. The Net Metered Consumer shall pay for the charges which are required for enhancement of augmentation of capacity of Distribution transformer in proportion with capacity of his Renewable Energy System that is in excess of the permitted capacity.
- ii. The remaining augmentation cost, would be borne by the New and Renewable Energy Department.

For the avoidance of doubt, as an example, if the DT capacity is 100kVA, then as per the present MPERC Regulations, maximum allowable cumulative capacity of Net Metering System would be 15kWp on the DT. A LT consumer who wishes to install a 30 kWp renewable energy Net Metering System would be required to augment the DT capacity by 100 kVA. In this case the consumer would be required to bear the cost component towards augmentation of DT towards 15 kVA and, New and Renewable Energy Department shall bear the remaining cost component for remaining 85 kVA.

- 7.2. The distribution licensee shall, on an annual basis, update the available capacity of various distribution transformers for connecting Renewable Energy Systems under Net Metering Arrangement and shall provide information regarding the same on its website.
- 7.3. If the electricity consumption of the applicant was less than the minimum required as specified by MPERC for any consecutive four months over last twelve months, such consumer would be permitted for the Net Metered Renewable Energy System maximum up to its contract demand under this policy.

8. TECHNOLOGY:-

All Renewable Energy Systems, with or without storage, conforming to the technical specifications specified by MPERC/MNRE/CEA, will be eligible for incentives available under this policy. Standards for solar photovoltaic system are at Annex – I, subject to amendments in standards specified by MPERC/MNRE/CEA from time to time.

If a Consumer opts for connectivity with a battery back-up, the inverter shall be required to have a separate back-up wiring to prevent the power from battery/ decentralized generation/ diesel generator flow into the grid, in the absence of grid supply, and for that an automatic isolation arrangement shall have to be provided.

Grid Connected Renewable Energy Systems using Inverter 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 Renewable Energy System should automatically get disconnected by the circuit Breaker / Auto switch provided in the inverter. Further, The Renewable Energy System is required to have automatic inbuilt/ inherent synchronization device.

9. ENERGY ACCOUNTING AND COMMERCIAL ARRANGEMENTS FOR NET METERED RENEWABLE ENERGY SYSTEMS:-

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

9.1. Provision Regarding Surplus Power:-

If excess or surplus power found to be exported, after fulfilling the captive consumption requirements of the Net Metered consumer at the end of the settlement period, then the Net Metered Consumer shall be compensated by the distribution licensee for the exported excess or surplus power 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).

9.2. Metering Arrangement:-

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

Distribution licensee or ‘Net Metered Consumer’ or Madhya Pradesh Urja Vikas Nigam shall buy LT/HT bi-directional meter or Net Meter. 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. The Net Meter shall be sliding window compatible for HT customers.

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. However, sealing of Generation meter shall be done either by distribution licensee or MPUVN.

In case Net Metered Consumer tampers with a Net Meter or installs or uses a tampered Net Meter, which interferes with accurate metering of electric current or results in theft of electricity, then he shall be liable for punishment under clauses 126,135,136 and 138 of Electricity Act 2003. These provisions shall not be applicable for Generation Meter of the Net Metered Consumer.

10. STANDARDS OF INTERCONNECTION, OPERATION AND MAINTENANCE OF GRID CONNECTED RENEWABLE ENERGY SYSTEM

The Interconnection, operation and maintenance of Grid Connected Renewable Energy 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.
- f. The technical requirement for interconnection of the grid connected renewable energy system with the network of the Distribution licensee is specified in Annex – III, subject to any amendments by MPERC/CEA.

10.1. The Connectivity of Consumers of Category –I Net Meter at various levels of supply voltage with network of Distribution licensee shall be made as per provisions of Madhya Pradesh Electric Supply Code, 2013 and subsequent amendments thereto, which are as follows:-

System Capacity	Connectivity of Net Meter at Supply Voltage
Up to 3 kW	230 V, 1 Ph [LT]
Beyond above and till 112 kW	415 V, 3 Ph [LT]
Beyond above and till 300 kVA	11 kV [HT]
Beyond above and till 10,000 kVA	33 kV [HT]

In case the Net Metered Renewable Energy Based Power Plant is being installed by an HT Consumer (11kV & above), he is also allowed to install and connect the Net Metered Renewable Energy System at his LT Bus Bar System, However, the Net Meter shall be installed on HT side of the transformer. The existing LT/HT meter shall be replaced by Net Meter. Typical Single Line Diagrams (“SLDs”) for different voltage levels for interconnection of the Net Metered Renewable Energy System with the network of the Distribution licensee are shown at Annex – IV.

- 10.2.** The Connectivity of Category – II & Category – III Renewable Energy 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. The Renewable Energy System connectivity may be allowed at Low Voltage or 11/33 /132 kV as considered technically suitable by the Distribution Licensee.
- 10.3.** Distribution licensee shall specify the interface/interconnection point and metering point in Net Metered Consumer’s / Consumer’s premises.
- 10.4.** In compliance with Rule 47(A) of Indian Electricity Rules, 1956 as applicable in Madhya Pradesh, installation of Grid Connected Renewable Energy System up to 10 kW capacity is exempted from CEIG approval. In light of this, Distribution licensees may inspect Grid Connected Renewable Energy System up to 10 kW capacity. However, such exemption shall be as per prevailing notifications/guidelines of GoMP/MPERC/CEA.

11. SAFETY OF GRID CONNECTED RENEWABLE ENERGY SYSTEMS

The Grid Connected Renewable Energy System owner shall be responsible for safe operation, maintenance and rectification of defect of its system up to the interconnection point, beyond which the responsibility of safe operation, maintenance and rectification of any defect in the system, including the net meter, shall rest with Distribution Licensee. While the responsibility of operation, maintenance and rectification of the Net Meter shall rest with the utility, the ownership of the Net Meter shall rest with the consumer, who shall be liable to pay any costs incurred by the utility during the operation, maintenance and rectification of the Net Meter.

The Consumer 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 Renewable Energy System when the grid supply is off. The Distribution Licensee would have the right to disconnect the consumer's installation 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 the Consumer's network and the Consumer shall be responsible to take adequate safety measures to prevent flow of power from battery /diesel generator / backup extending to distribution licensee's grid.

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

In emergency or outage situation, when there is no access to disconnect (neither automatic switch nor breaker), distribution licensee may disconnect service to the premises of the Consumer.

12. MONITORING & PERFORMANCE EVALUATION:-

'Net Metered Consumer' is required to install Generation Meter at the premises at his own cost, standards for the same are prescribed in Annex-III.

All Renewable Energy Systems, which are subsidized either by Government of India and/or Government of MP, will be subject to monitoring and evaluation by MPUVN to measure performance of the Renewable Energy system as per the benchmarks set by MPUVN from time to time. In case, the Renewable Energy system fails to achieve desired performance, such 'Net Metered Consumer' / Owner of Renewable Energy System would have to face the penalties and consequences as may be decided by MPUVN from time to time.

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

Installation of Renewable Energy System under the Policy can be done by a RESCO on mutually agreed terms, including the arrangement where the Renewable Energy System is owned by the RESCO. Power generated from such Renewable Energy System would

be supplied to the said Net Metered Consumer or off-grid Renewable Energy Beneficiary and it cannot be traded or sold to a third party. In case of other consumers, the power would be generated by the RESCO for and on behalf of the consumer, who can dispose of the power in accordance with the extant policies.

As regards Net Metered consumers, the RESCO would enter into a Power Purchase Agreement (“Agreement”) to sell metered units of electricity at a mutually agreed price. The Net Metered Consumer 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 the distribution licensee. Further, in accordance with the Agreement between the RESCO and the Net Metered Consumer, the RESCO could be responsible for all O&M service through the term of the Agreement, implying that the Net Metered Consumer has to pay neither for capital expenditure nor for O&M, and has to only pay the RESCO for units of electricity consumed from the Renewable Energy System. The compensation from distribution licensee for the excess generation at the end of Settlement Period shall be credited to the Net Metered Consumer. The RESCO model could be implemented as one of the following models:

- a. Build Own Operate Maintain (BOOM), wherein the third party RESCO will purchase and permanently own the Renewable Energy System for the term of the Agreement, and supply power to the Net Metered Consumer for the life of Agreement. RESCO shall uninstall the System once the term of the Agreement is completed and restore the roof as it was before installation of Renewable Energy System; and
- b. Build Own Operate Transfer (BOOT), wherein the RESCO purchases and owns the Renewable Energy System, and enters into an Agreement with the Net Metered Consumer for operation of the system for the term of the Agreement, and, subsequently, the Net Metered Consumer takes over ownership of the Renewable Energy System from the RESCO. In this model, while the O&M expenses during the term of the Agreement are borne by the RESCO, once the ownership of the Renewable Energy System is transferred to the Net Metered Consumer, the responsibility for O&M shifts to the Net Metered Consumer. In addition to the cost of metered units of electricity, the RESCO might require a periodic payment for Renewable Energy System installed by it. Effectively, the Consumer gets an

implicit 'loan' from the RESCO in order to be able to take ownership of the Renewable Energy System within a mutually agreed period.

There could be other models, wherein the investor could buy and own the Renewable Energy System, and enters into a lease contract with the Renewable Energy Beneficiary, who makes a flat monthly lease payment to the investor.

14. INCENTIVES :-

14.1. Energy generated from the Renewable Energy Systems shall be exempted from Electricity Duty and Cess for a period of 10 years from the date of commissioning, as specified in Madhya Pradesh Solar Policy, 2012 as amended from time to time. Other incentives under the above referred policy shall be applicable to all Renewable Energy Systems installed under any of the ways defined in para 1.8 of this policy.

14.2. Installation of Net Metered Renewable Energy System under the Policy shall be exempted from banking charges, wheeling charges and cross-subsidy charges, subject to MPERC (Grid Connected Net Metering) Regulations, 2015 and amendments thereof.

14.3. Energy generated by Net Metered Renewable Energy System installed under the Policy shall be ascertained as laid down in para 17 of the policy. Such energy shall be utilized for meeting RPO compliance of distribution licensee without any cost or investment being incurred by the distribution licensee. Hence the distribution licensee shall:-

- a. Add energy generated by the Net Metered Renewable Energy System to the Net Energy Consumed by the consumer from the distribution licensee for the purpose of determination of load factor and consequent impact on tariff. This energy generated shall also be added in determination of adherence to the guaranteed minimum consumption.
- b. For the purpose of determination of fixed charge based on contract demand, the contract demand shall be reduced by the capacity of the Renewable Energy Systems multiplied by the Normative CUF.

It is clarified that these incentives are not available for Category II, Category III and off-grid systems.

- 14.4.** Renewable Energy 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, on meeting the eligibility conditions and the procedure prescribed. MPUVN shall be the nodal agency for processing the request and releasing the state / central subsidy.
- 14.5.** RBI guidelines have provisions that allow banks to provide loans for installation of Renewable Energy Systems. Further, banks have policies to include cost of Renewable Energy System installations 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.
- 14.6.** Installation of Renewable Energy System in the premises of a Renewable Energy Beneficiary would not be considered under eligible Floor Area Ratio (FAR) calculation. Further, it will also allow the Renewable Energy Beneficiaries to claim an additional Floor Area Ratio (FAR) for the premises according to capacity of the Renewable Energy system installed, as laid down by Urban Development & Environment Department, GoMP. **This benefit cannot be availed if the Renewable Energy System is located outside the premises of the Renewable Energy Beneficiary or where the energy is being supplied to a third party, and where the energy is being supplied through wheeling.**

15. TAX EXEMPTIONS OF STATE GOVERNMENT:-

- 15.1.** Renewable Energy System installation under this policy shall not be treated as “construction”, and, therefore, would not attract any additional liability of property tax for installation of Renewable Energy Systems on their rooftops or premises.
- 15.2.** The equipment purchased for installation of Renewable Energy 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 Renewable Energy System of a Net Metered Consumer, who is not defined as 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 Renewable Energy 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 generated from the grid connected Renewable Energy System 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 / EQUIPMENTS

For standardization of quality of Renewable Energy System and to enable easy installation of Renewable Energy Systems, MPUVN would empanel technology facilitators/developers/agencies/person executing the work, and equipment for implementing Renewable Energy Systems, after thorough due diligence. MPUVN shall consider proposals for empanelment, which shall be reviewed by MPUVN periodically. 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 (For Net Metered Consumers):-

- a. The Application Form (as per enclosed Annex - V) can be collected or downloaded from concerned distribution utility's office/website or MPUVN's office/Website.
- b. Applicant or on his/her/its behalf RESCO or EPC Company or MPUVN or their authorized representative, will fill the application form and will submit the same to the distribution utility for general and technical screening for interconnection along with registration fee of Rs 1000.
- c. On receiving the application form, the distribution licensees will register the application form and will electronically issue an acknowledgement receipt (as per enclosed Annex - VI) with unique registration number to applicant and MPUVN for further reference / tracking of application form on first come first serve basis.
- d. The distribution utility will examine the request on the basis of relative capacity of the proposed renewable energy system and the distribution transformer on the basis of Para 7.1 of the policy.
- e. If the interconnection is feasible, utility will issue 'approval letter' (as per enclosed Annex - VII) to the applicant for system installation.
- f. The applicant after receipt of 'approval letter' shall sign the Net Metering Inter Connection Agreement and submit the same to the distribution utility. (As per enclosed Annex - VIII).
- g. The applicant may submit application for processing of subsidy in the formats prescribed in the website of MNRE & MPUVN.
- h. The applicant or MPUVN on his behalf will identify and finalise the appropriate contactor/system installer/MPUVN empanelled vendor for solar project installation and get the plant installed and commissioned.
- i. The above said approval shall be valid for 180 days from the date of issue of approval letter and the Renewable Energy System shall be required to be commissioned within this period. The progress of system installation shall be monitored by MPUVN authorized officer / Agency and if adequate progress is not

observed MPUVN may recommend distribution utility to cancel the approval. However based on progress of system installation MPUVN may recommend distribution utility for extension of the approval

- j. On completion of project installation, applicant or MPUVN on his behalf will inform the utility and MPUVN through work completion report, as per enclosed Annexure - IX.
- k. After completion of installation of project, distribution utility personnel will undertake final site inspection
- l. In compliance with Rule 47(A) of Indian Electricity Rules, 1956 as applicable in Madhya Pradesh, installation of Renewable Energy System up to 10 kW capacity is exempted from CEIG approval. Distribution licensees shall inspect Renewable Energy System up to 10 kW capacity. However, such exemption shall be as per prevailing notifications/guidelines of GoMP/MPERC/CEA.
- m. The Net Metering facility shall also be applicable to Consumers who qualifies as Net Metered Consumer and have installed Renewable Energy System before notification of this policy, subject to technical feasibility at Distribution Transformer / Sub-Station Level ; subject to fulfilment of criteria as indicated above from point a to f.
- n. On completion of site inspection, distribution utility will finally approve the synchronisation of solar project with the grid and issue the commissioning certificate.
- o. If applicable, subsidy shall be released to Net Metered Consumer, subject to sanction and release by concerned government authorities.

Under this policy, registration, procedure and fee for Renewable Energy Systems for the operation under any of the ways defined in para 1.8 other than Category – I, shall be done by MPUVN.

20. POWER TO AMEND

This policy authorizes the administrative department to issue the order clarifying and/or interpreting the provisions of this policy. Such 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 to streamline implementation of the program.