



- 1.5 Words and expressions used in these Regulations and not defined herein but defined in the Electricity Act, 2003 (hereinafter referred to as 'the Act') shall have the meaning as assigned to them under the Act.
- 1.6 The Odisha General Clauses Act, 1937 shall apply to the interpretation of these Regulations.

## 2. Definitions:

- 2.1 In these Regulations, unless the context otherwise requires: -
- (a) 'Act' means the Electricity Act, 2003 (36 of 2003);
  - (b) 'Authority' means the Central Electricity Authority referred to in sub-section (1) of section 70 of the Act;
  - (c) 'Billing Cycle' means the billing interval agreed between Mini Grid Operator (MGO) and the consumers;
  - (d) 'Commission' means the Odisha Electricity Regulatory Commission referred to in sub-section (1) of Section 82 of the Act;
  - (e) 'Critical Supply Hours' means supply of electricity in the morning during 6.00 Hrs to 10:00 Hrs and during 17.00 Hrs to 22.00 Hrs in the evening each day or as amended by the Commission from time to time through an order;
  - (f) 'Detailed Project Report' or DPR means a detailed project report consisting of technical, financial, environmental and all other aspects related to Mini-Grid Project;
  - (g) 'Distribution Franchisee' or DF means a person authorized by the Distribution Licensee to perform requisite duties on its behalf in a particular area within the area of supply of the Distribution Licensee as per the terms and conditions in the Distribution Franchisee Agreement.
  - (h) 'Distribution Franchisee Agreement' or DFA means an Agreement between the Distribution Licensee and the Mini-Grid Operator as a Distribution Franchisee.
  - (i) 'Distribution Franchisee Fee' means the payment of amount made by the Distribution Licensee to the Mini-Grid Operator for services rendered under the Distribution Franchisee Agreement;
  - (j) 'Feed-in-Tariff' or FIT means the tariff determined by the Commission as per section 62 of the Act for procurement of electricity by the distribution licensee from renewable energy based mini-grid projects. While determining the FIT the Commission to the extent possible shall consider to permit an allowance based on technology, environmental and social benefit, market risk related with micro-grid project.
  - (k) 'Grid Arrival' means extension of the Distribution Licensee's system within 100 meters of operation of the Mini-Grid Projects;
  - (l) 'Inter-connection Point' means the interface point for supply of electricity from the Mini-Grid project to the Distribution Licensee's System. As defined in the CERC (Terms and condition for tariff determination from Renewable Energy Sources 2012 and subsequent amendments thereof.
  - (m) 'kW' means kilo Watt

- (n) **Mini Grid Area** – Un-electrified census Villages, Hamlets, Padas, Bastis and such underserved areas where electricity would be supplied through Mini Grid projects by MGO under these regulations in the state of Odisha.
- (o) **Mini-Grid/ Mini-Grid Project**’ means the project comprising of renewable energy based electricity generation system with capacity of more than 10 kW and up to a capacity of 1000 kW and supplying electricity to the consumers in the Mini-Grid areas through the Power Distribution Network and/or selling electricity to the Distribution Licensee as per the provisions laid out in these Regulations. Such type of projects some time also referred as Renewable Energy Generation and Supply Projects (REGSP).
- (p) **‘Mini-Grid Operator’ or MGO** means a person, a group of persons, local authority, Panchayat Institution, users’ association, co-operative societies, non-governmental organizations, a Company that builds, commissions, operates and maintains the Renewable Energy Based Mini- Grid Project within the State of Odisha for generation and supply of electricity to consumers and/or sale to the Distribution Licensee in the Mini-Grid Areas and has agreed to operate under these Regulations;
- (q) **‘MNRE’** means the Ministry of New and Renewable Energy of the Government of India or its successor entity;
- (r) **‘Obligated Entity’** means the entity mandated under Clause (e) of Sub-Section (1) of Section 86 of the Act to fulfill the Renewable Purchase Obligation and identified under the OERC (Procurement of Energy from Renewable Sources and its Compliance) Regulations, 2015 as amended from time to time.
- (s) **‘Power Purchase Agreement’ or PPA** means an Agreement between the Distribution Licensee and the MGO for the purchase of electricity generated from mini-grid project upon inter- connection with grid of the Distribution Licensee;
- (t) **‘Public Distribution Network’ or PDN** means the distribution infrastructure owned by the MGO for supplying electricity generated from the mini-grid project to the consumers in the Mini-Grid Area as per the Technical Standards and Safety measures defined in these Regulations;
- (u) **‘Renewable Energy Sources’** means renewable sources such as small hydro, wind, solar, biomass, bio fuel, urban or municipal waste, mini hydro/micro hydro and thereof and other such sources as approved by the Ministry of New and Renewable Energy from time to time for generation of electricity;
- (v) **‘Renewable Purchase Obligation’ or RPO** means the requirement as specified under OERC (Procurement of Energy from Renewable Sources and its Compliance) Regulations, 2015 and its subsequent amendments as per Clause (e) of Sub-Section (1) of Section 86 of the Act, for the obligated entity to purchase electricity generated from renewable energy sources;
- (w) **‘Standard of Performance’ or SoP** means to supply grid quality electricity to all willing domestic consumers connected with Public Distribution Network for at least 6 hours during the critical supply hours on daily basis in 24 hours day format.

- (x) 'State Nodal Agency' means the Odisha Renewable Energy Development Agency (OREDA);
- (y) 'Year' means the Financial Year.

## **Part - II: Scope and Applicability**

### **3. Scope of Regulations and Extent of Application:**

- 3.1 These Regulations shall apply to new and existing Mini-Grid Projects having capacity above 10 kW up to 1000 kW set up for generation and supply of electricity to consumers in the mini-grid served area and/or sale to the Distribution Licensee in the State of Odisha. The existing Mini-Grid Projects shall ensure the compliance of these Regulations and shall meet the Technical Standards and Safety measures as per these Regulations within six months of notification.

## **Part - III: General Principles**

### **4. Models for Business Operations:**

- 4.1 The MGO may implement the Mini-Grid Projects for supply of electricity in the areas served by Mini- Grid under following operational models or any subsequent model(s) as approved by the Commission.

#### **4.2 Model A: Non -existence of Grid**

- (a) The MGO shall build, commission, operate and maintain the Mini-Grid Project for generation and supply of electricity through the PDN as per the Standard of Performance (SoP) specified in these regulations in areas where the Distribution Licensee's System doesn't exist.
- (b) The MGO shall be entitled to supply entire quantum of electricity generated from the Mini-Grid Projects to the consumers at mutually agreed tariff or at the tariff decided by the State Government of Odisha under any State sponsored schemes to be implemented by the State Government.

Upon arrival of the grid, the MGO may opt for one of the following options for electricity supply:

- i. Continue to supply entire quantum of electricity generated for consumers through the Public Distribution Network as per the Standard of Performance (SoP) at mutually agreed tariff as per Clause 4.2 (a) above; or
- ii. The MGO shall continue to supply to the consumers at the mutually agreed tariff as per the arrangement in the Clause 4.2(a) above and sell excess/surplus electricity to the Distribution Licensee at the inter-connection point at the applicable Feed In Tariff (FIT), to be decided by the Commission, or
- iii. Generate and supply entire electricity to the Distribution Licensee at the inter-connection point at the applicable FIT to be decided by the Commission. In such situation, the Distribution Licensee may allow

the MGO to undertake role of the Distribution Franchisee (DF) in the Mini-Grid Area.

- (c) In case of the arrangement described in Clause 4.2(b) (iii) above, the MGO shall have the option to transfer the ownership of the PDN to the Distribution Licensee with mutual consent on depreciated value of assets as on last date of previous financial year, provided the PDN conforms to the standards of the Distribution Licensee's system. The depreciated value of the PDN shall be determined by applying the Straight Line Method, as per OERC Regulations in practice, on the book value of the asset recorded during the year of commissioning of the mini-grid project, as per the Cost Data Book of the Distribution Licensee. Capital cost of generating station shall be adopted from the audited accounts of the MGO.
- (d) The Mini Grid Operator may migrate to any of the options, as specified in 4.2 (b) above, after completing the due process in accordance with clause (9) of these Regulations.

#### 4.3 **Model B: Grid pre-exists**

- (a) The MGO shall build, commission, operate and maintain the Mini-Grid Projects for generation and supply of electricity through the PDN as per the SoP in the Mini-Grid Areas where the Distribution Licensee's System pre-exists. The MGO shall be entitled to supply entire quantum of electricity generated from the Mini-Grid Project to the consumers through the PDN at mutually agreed tariff or at the tariff decided by the State Government of Odisha under any State Sponsored schemes.
- (b) After supplying electricity to the consumers for a minimum period of six (6) months, the MGO may opt for one of the following electricity supply options:
  - i. Continue to supply entire quantum of electricity generated to the consumers through the PDN as per the standard of Performance (SoP) at mutually agreed tariff as per the arrangement given in the Clause 4.3(a) above; or
  - ii. The MGO shall supply to the consumers at the mutually agreed tariff as per the arrangement given in the Clause 4.3(a) above and sell excess/surplus electricity to the Distribution Licensee at the inter-connection point at the applicable FIT, to be decided by the Commission.
  - iii. On expiry of at least one (1) year, the MGO may opt to generate and supply entire electricity to the Distribution Licensee at the inter-connection point at the applicable FIT, to be decided by the Commission. The MGO may utilize the existing PDN for its own use or the same may be taken over by the Distribution Licensee at mutually agreed price.
- (c) The Mini Grid Operator may migrate to any of the options, as specified in 4.3 (b) (i) and (ii) above, after completing the due process in accordance with clause (9) of these Regulations.

### **Part - IV: Technical Standards and Connectivity Norms**

## **5. Technical Standards for Construction of the PDN:**

5.1 The MGO shall be responsible for safe Operation and Maintenance of the PDN as per the relevant Rules and Regulations. The safety measures and technical standards for construction of PDN shall conform to Central Electricity Authority (CEA) (Measures relating to Safety and Electric Supply) Regulations, 2010 and as per manual for design and construction of lines issued by Rural Electrification Co-corporation and followed by the distribution licensees in the state of Odisha as amended from time to time.

### **5.2 Technical Standards for Interconnection with the Grid**

5.2.1 The inter-connection of the Mini-grid with the Distribution Licensee's system shall comply with the CEA (Technical Standards for connectivity of the Distributed Generation Resources) Regulations, 2013 and amendments there to.

5.2.2 The islanding mode of operation of mini-grid is allowed as per provisions stated in OERC order dated 19.08.2016 on Net metering/bi-directional metering and connectivity norms for small scale PV system. In case of DF mode of operation using a common PDN, appropriate conditions related to islanding mode of operation should be specified in the DFA between parties.

5.2.3 The cost for interconnection network from the mini-grid project to interconnection point shall be borne by the MGO.

## **6. Metering Arrangement**

6.1 The metering shall be provided at the generation end, interconnection point with the Distribution Licensee's system, and the consumer end, as the case may be.

6.2 All the meters shall adhere to the standards and provisions specified in the CEA (installation and operation of meters), Regulations 2006 and amendments there to.

6.3 The installation and operation of meters shall be in conformity with the relevant Regulations notified by the CEA from time to time.

6.4 Generation meter readings at Mini-grid project shall be considered for the purpose of the fulfillment of RPO for the obligated entity/entities.

6.5 At the generation end, main meter and standby metering arrangement are to be provided by the MGO as per terms of the Power Purchase Agreement.

6.6 The Distribution Licensee shall install meter(s) at the interconnection point of the Mini-grid.

6.7 All the meters shall be periodically calibrated. Consumer meters should be calibrated at an interval of the least five years.

## **7. Power Purchase Agreement:**

7.1 In case of partial or entire sale of electricity generated from the Mini-grid, the MGO shall enter into the PPA with the GRIDCO / Distribution Licensee.

- 7.2 The quantum of energy sale to the Distribution Licensee shall be determined on the basis of Joint Meter Reading (JMR), recorded by the MGO along with representative of GRIDCO/ Distribution Licensee.
- 7.3 MGO shall submit the invoice to GRIDCO / Distribution Licensee on the basis of JMR. After verifying the claim, GRIDCO / Distribution Licensee shall pay the bill according to the provisions given in the PPA.
- 7.4 GRIDCO / Distribution Licensee shall ensure that power purchase related payments to MGOs take precedence over all third party payments including other power purchases, and provisions of Letter of Credit (LC) be maintained as provided in the PPA for payment security to the MGO.
- 7.5 The PPA shall be approved by the Commission.

**8. Distribution Franchisee Framework:**

- 8.1 The Distribution Licensee may appoint MGO as the DF in the Mini-Grid Area as per mutually agreed terms and conditions.

**9. Migration Options:**

- 9.1 The Mini Grid Operator intending to migrate shall inform the Commission, the State Nodal Agency and the concerned Distribution Licensee for migration to another option with a proposed model. In case of state sponsored schemes, State Government shall also be informed.
- 9.2 The State Nodal Agency upon receiving intimation shall facilitate the migration process.

**10. Exit Options:**

- 10.1 The MGO shall be allowed to exit the Mini-Grid Area after providing ninety (90) days prior intimation to the Commission, the State Nodal Agency, the GRIDCO and the concerned Distribution Licensee and State Government (if applicable).
- 10.2 The MGO shall be allowed to transfer the ownership either of the generating assets and/or distribution asset to the distribution licensee or any other MGO, as the case may be, as per mutually agreed terms and conditions provided that the existing agreement and Feed –in – tariff determined by the Commission shall remain unchanged.
- 10.3 The exit options will be governed by the relevant clauses given in the Agreement(s) signed by the MGO with the consumers / distribution licensee.

**Part - V: Commercial Framework**

**11. Tariff for the Mini-grid Projects**

- 11.1 The Commission shall determine the Tariff for sale of electricity from mini-grid plant to the distribution licensee as per provision under Section 62 of the Act on the application filed by the MGO.

Provided that MGO in its tariff application shall clearly provide details of capital cost, operating cost and performance parameters of Mini-grid project. While determining the tariff the Commission shall, as far as possible, be guided by the principles and methodologies specified by the

National Electricity Policy, Tariff Policy and Rural Electrification Policy notified by the Government of India.

- 11.2 The GRIDCO / Distribution Licensee shall enter into the Power Purchase Agreement (PPA) with the MGO within one month of receipt of notice from MGO for purchase of electricity from the mini-grid project as per the tariff determined by the Commission

**12. Energy Accounting and Settlement for supply to consumers:**

- 12.1 The MGO shall submit the mini-grid project details to the Commission, with a copy to State Nodal Agency, on yearly basis as per the format attached under Annexure-1.
- 12.2 The MGO and the consumer shall mutually decide on the billing cycle for the purpose of raising invoices and payment cycle for payment of bill.
- 12.3 The billing cycle shall be on monthly/bi-monthly basis as mutually decided by the MGO and the consumers served by the Mini-Grid project developed by the MGO.
- 12.4 The tariff charged to the consumers shall be as per mutual agreement. While fixing tariff any financial assistance/subsidy with direction (if any) from the Govt. shall be taken into consideration.

**13. Energy Accounting and Settlement for supply to the Distribution Licensee:**

- 13.1 The MGO shall raise invoice against the electricity injected into the Distribution Licensee's System at the interconnection point based on the billing period of the Distribution Licensee. The distribution licensee shall pay the MGO at the applicable tariff, to be determined by the Commission, as per the terms of PPA.
- 13.2 The other terms and conditions of payment and contract shall be duly covered in the PPA.

**14. Energy Accounting and Settlement for the activities of Distribution Franchisee:**

- 14.1 The MGO shall raise invoice to the Distribution Licensee on activities of the Distribution Franchisee in compliance with the conditions of DFA.
- 14.2 The terms and conditions with respect to the payments and the performance of the Distribution Franchisee shall be specified in the DFA.

**15. Renewable Purchase Obligation:**

- 15.1 The MGO shall submit generation report(s) to the Commission, the State Nodal Agency, the GRIDCO and to the concerned Distribution Licensee in whose area the Mini-grid project is located, on quarterly basis.
- 15.2 The quantum of electricity generated from the mini-grid as recorded in generation meter shall qualify as having complied with the RPO for the Distribution Licensee /GRIDCO.

## **Part - VI: Roles and Responsibilities of various Stakeholders**

**16. Duties of the State Nodal Agency:**



- 16.1 State Nodal Agency (SNA) shall keep records of all Mini-Grid plants operating under these Regulations in the state. SNA shall support the Commission and furnish necessary information to the Commission, time to time, in order to effectively implement these Regulations.
- 16.2 State Nodal Agency shall prepare the implementation guidelines for smooth implementation of the mini-grid projects under these Regulations in the State within six months from the date of notification of these Regulations.
- 16.3 State Nodal Agency shall scrutinize the Detailed Project Report (DPR) submitted by MGO to check its consistency in alignment with the provisions given in these Regulations and implementation guidelines to be developed for this purpose.
- 16.4 SNA shall support the Commission for determining the tariff for Mini-Grid projects.
- 16.5 SNA shall administer exit requests of the MGO.

**17. Duties of the Distribution Licensee:**

- 17.1 The Distribution Licensee, while planning for network expansion in rural areas, shall take into consideration the Mini-Grid project(s) under operation or under advance stage of execution.
- 17.2 The Distribution Licensee should provide inputs to the concerned agencies for development of the technical standard for the PDN and interconnectivity norms of Mini-grid Renewable Energy Sources for interconnection with the Distribution Licensee's system.
- 17.3 The Distribution Licensee may enter into the DFA with MGO with mutual consent.
- 17.4 The Distribution Licensee on extension of the grid to the mini-grid project area, on request of MGO shall take over the PDN based on the depreciated value of assets determined through the Straight Line Method on mutually agreed terms and conditions.

**18. Duties of the Mini-Grid Operator:**

- 18.1 The MGO shall implement the Mini-Grid Project after due intimation of information as specified in Annexure 1 of these Regulations to the Commission, the State Nodal Agency, GRIDCO and the concerned Distribution Licensee, through registered post.
- 18.2 The MGO shall develop, construct and commission the project and generate and supply electricity to consumers in the Mini-Grid Area as per SoP provided in the regulations. The MGO shall look after the operation and maintenance of Mini-Grid project.
- 18.3 The MGO shall perform the functions as outlined under the PPA with GRIDCO/DISCOMs and the DFA (as applicable) with the Distribution Licensee of the area.
- 18.4 In case of any default and breach of supply conditions by the consumer, including but not limited to non-payment, theft, misuse, misrepresentation, fraud, the MGO shall be entitled to take an appropriate action as per the Act or Regulations of the Commission.

18.5 The MGO shall promote use of energy efficient appliances.

**19. Duties of GRIDCO:**

19.1 The GRIDCO shall enter into the PPA with the MGO within one (1) month of receiving such request from the MGO.

19.2 The GRIDCO will pay the MGO at the tariff specified for the Mini-Grid project by the Commission as per the provisions given in the PPA.

19.3 The GRIDCO shall make certain that power purchase related payments to MGOs take precedence over all third party payments including other power purchases. Letter of Credit (LC) and Escrow Account arrangement must be maintained as provided in the PPA for payment security to the MGO.

**20. Duties of the Consumers in the Mini-Grid Area:**

20.1 Consumers in the Mini-Grid Area shall regularly pay the electricity charges to the MGO, based on the mutually agreed tariff within a specified time period as mutually decided by the consumers and MGO.

20.2 The delayed payment surcharges, if any, for payment made after the due date, may be applicable as per mutual terms and conditions.

20.3 Consumers shall adopt Energy Efficient measures by using Energy Efficient appliances and reduce the overall electricity consumption from the Mini-Grid project.

## **Part - VII: Dispute Resolution**

**21. Formation of Technical Committee:**

21.1 The Commission shall set up a Technical Committee (Committee) to facilitate implementation of the Mini- Grid Projects in the State of Odisha. The objective of the Committee will be to safeguard the interests of the MGO supplying electricity as well as to protect the interest of the consumers connected with the Mini-Grid project(s) developed under these Regulations in the state of Odisha.

21.2 The Committee will be constituted at the State level and will be headed by CEO, OREDA with its Secretariat at OREDA. The Committee will consist of the representatives of the OERC, State Nodal Agency, GRIDCO, the Distribution Licensees, not below the rank of the Superintendent Engineer and any other officer nominated by State Government. The representative of MGO shall also be invited in the meeting.

21.3 The Committee meeting shall be ordinarily held at OREDA as and when required or at any other place decided by CEO, OREDA.

21.4 The Committee will supervise the overall progress of the activities for effective implementation of these Regulations.

**22. Dispute Redressal Mechanism:**

22.1 The Committee shall resolve and/or facilitate in resolution of dispute arising between the MGO and the Distribution Licensee.

- 22.2 If dispute is not resolved in a period of three (3) months, the aggrieved party may approach the Commission.
- 22.3 Grievance of consumers served by MGO shall be redressed by the State Nodal Agency. In case any consumer is aggrieved with the decision of SNA concerned consumer can approach the Technical Committee. The Committee shall have the liberty to authorise any of its Member(s), other than SNA to resolve the grievance of consumers.

### **Part - VIII: Miscellaneous**

**23. Power to give directions:**

- 23.1 The Commission may from time to time issue such directions and orders as considered appropriate for the implementation of these Regulations and for development of the market for Mini-Grid projects in the State.
- 23.2 The Commission may, if necessary, devise additional mechanism for compliance of the provisions of these Regulations in consultation with the stakeholders, through an order of the Commission.

**24. Power to Relax:**

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

**25. Power to remove difficulties:**

- 25.1 If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by general or specific order(s), make such provisions not inconsistent with the provisions of the Act as may appear to be necessary for removing the difficulty in giving effect to the objectives of these regulations.

**26. Power to amend:**

- 26.1 The Commission may, from time to time, amend, modify or repeal any of the provisions of these Regulations.

**By the Order of the Commission,**

**PRIYABRATA PATNAIK**

**Secretary**

## Format for details to be submitted by the MGO to the Commission

Name of the MGO						
Unique ID number if any						
<b>Mini-grid Project Details</b>						
Village						
Tehsil						
District						
Capacity of Mini-grid (kW)						
Year of Operation						
Types of Renewable Energy based system used and their respective capacity (in kW)						
Network length of the PDN (circuit kilometers)						
Monthly units generated (kWh) during previous financial year	April	May	June	--	--	March
<b>Consumer Details (number of consumers)</b>						
Domestic households						
Commercial consumers						
Any other type of consumers (please specify)						
Consumers with connected load more than 5 kW						
Total number of consumers						