

ODISHA ELECTRICITY REGULATORY COMMISSION

**(Net Metering/Bi-Directional Metering & Their Connectivity With Respect To
Rooftop Solar Pv Projects On The Rooftop Of Government/Psu Owned Buildings)
Order, 2014, Dated: 26.11.2014 with amendments Dated: 18.05.2015, 16.09.2015**

Sl. No.	Description	Summary
1.	Control/Review Period	N.A.
2.	Net-metering/ Bi-directional Metering based rooftop Solar PV Project	<ol style="list-style-type: none"> 1. The net metering/bi-directional metering based rooftop solar projects facilitates self-consumption of electricity generated by the rooftop project and allows for feeding the surplus energy into the network of the distribution licensee. 2. In the context of the state of Odisha the following may be the ownership arrangements for installation of such net metering based rooftop solar systems: <ul style="list-style-type: none"> • Self-owned arrangement wherein rooftop owner also owns the PV system. • Third party ownership in which a developer owns the PV system and also enters into a lease/commercial arrangement with the rooftop owner. 3. In case of defective net metering/ bi-directional metering, the followings shall apply: <ol style="list-style-type: none"> (a) If the solar net-metering facility has been in service for more than 12 months: The active energy import, active energy export and active energy net import readings of the corresponding period of the previous year will be taken for billing purpose by the DISCOMs. (b) If the solar net-metering facility has been in service for less than 12 months: The net active energy to be billed by DISCSOM per month = (Average energy consumption (imported active energy) during the last three billing cycles prior to the installation of the bi-directional/ net meter) - KWP of Solar PV generator x 124.
3.	Self-owned, net metering/ bi-directional based rooftop Solar PV Project	<ol style="list-style-type: none"> 1. In this system, the rooftop owner, who is also the electricity consumer for the utility installs the rooftop solar system at his own cost. 2. The electricity generated by the system is first used to service consumer's captive load within the rooftop owner's premises. 3. The net-generation is then credited to the owner's account and adjusted subsequently against imports from the grid in the manner.
4.	Third party owned Rooftop PV net metering/ Bi-directional metering	Third party sale of the power generated from the Rooftop Solar PV is not permitted. The power generated shall be utilized for self consumption of the consumer and surplus power shall be injected into the Grid. The banking of electricity is also not allowed
5.	Capacity Limits	The cumulative Grid injection is capped at 30% of the distribution transformer capacity.

6.	Interconnection arrangements	Interconnection framework for net-metering shall address parameters including connecting voltage level, minimum technical standards for interconnection as would be indicated by the Commission from time to time under relevant regulations and orders including Orissa Electricity Regulatory Commission Distribution (Conditions of Supply) Code, 2004 and amendments thereto and as per technical standards for Connectivity of Distributed Generation resources Regulations 2013 and amendments thereto notified by Central Electricity Authority.
7.	Application	<ol style="list-style-type: none"> 1. The consumer shall make an application in the prescribed format to the distribution utility along with a fee of INR 500/- . 2. The consumer can download the solar net-metering / bi-directional metering rooftop application form from the website of the distribution utility. 3. It can also be obtained from concerned sub-division office.
8.	Restrictions on level of overall or local grid penetration	<ol style="list-style-type: none"> 1. Distribution licensee shall provide net metering/ bi-directional metering arrangement to all eligible consumers as long as the cumulative capacity to be allowed for a particular distribution transformer shall not exceed 30% of the capacity of the distribution transformer. 2. The quantum of electricity consumed by an eligible consumer, who is not defined as an obligated entity from the rooftop solar system under net-metering / bi-directional metering arrangement shall qualify as deemed Renewable Purchase Obligation (RPO) for the distribution licensee/bulk supplier.
9.	Metering Arrangement	<ol style="list-style-type: none"> 1. Two meters would have to be installed by the solar power generator. One is for measuring solar generation and the other one is for Import/Export measurement. 2. These meters should be MRI and AMR compliant. 3. The meters shall adhere to the standards for consumers specified by the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 and Central Electricity Authority (Installation and Operation of meters) Amendment Regulations, 2010 as amended from time to time. 4. For HT connections (11kV and above), the applicable meter can be a bi-directional meter (Category-B) and complying with the existing IS-14697 and IS 15959 standards. 5. For LT connections (below 11kV), the applicable meter shall comply with the existing meter standards IS 14697 for CT operated static watt-hour meters and IS-13779 for ac static watt hour meters with additional requirement of two registers, as Import and Export register, to record the import and export of electricity. 6. All the meters should also comply with IS-15959 (Indian Standards for Data Exchange for electricity meters). 7. Check meter shall be installed for the solar energy system having capacity more than 20kW and for the solar energy system of capacity less than or equal to 20 kW, the check meter would be optional.
10.	Energy Accounting	<ol style="list-style-type: none"> 1. Electricity generated from a Solar rooftop PV project shall be capped cumulatively at 90% of the electricity consumption by the eligible consumer at the end of a settlement period which ends with the financial year to allow for seasonality in generation. 2. In case of the financial year where Commercial Operation Date (COD) occurs, the 90% capping shall be on the energy consumed by the consumer from the date of COD to the end of the financial year. 3. The imported energy shall be eligible for normal ToD benefit as per the order

		of the Commission prevailing at that time.
11.	Billing and Payment	In case of net import bill, i.e. if any electricity is supplied by the distribution licensee to the consumer, the distribution licensee shall raise invoice for the net electricity imported after taking into account any carry forward of energy from previous billing periods in the same financial year. The net energy imported has to be billed by the Distribution Licensee as per the tariff in force applicable to that category of consumers.
12.	LT Connectivity	<ol style="list-style-type: none"> 1. The Technical Standards for connectivity shall be as specified in the CEA's (Technical Standards for connectivity of the Distributed Generating Resources) Regulations, 2013 and as amended from time to time. 2. The maximum capacity for interconnection with the distribution licensee's system at a specific voltage level shall be limited to the contract demand of the consumer as per his agreement with the distribution licensee subject to maximum 1 MW for a single net / bi-directional metering point.
13.	Operation and Maintenance	<ol style="list-style-type: none"> 1. The solar rooftop PV projects shall comply with the relevant standards and guidelines specified by the MNRE / BIS and CEA. 2. The responsibility of operation and maintenance of the solar rooftop PV projects including all its accessories and apparatuses lies with the consumer. 3. The consumer should provide for all internal safety and protective mechanism for earthing, surge, DC ground fault, transients etc. as per the CEA regulation/standards. 4. The Solar rooftop PV projects shall restrict the harmonic generation within the limit specified in the agreement or specified by the Central Electricity Authority by regulation. 5. The inverter should be a sine wave inverter. Harmonic standards shall be as per IEEE 519.
14.	Applicability of Renewable Energy Certificates and RPO	<ol style="list-style-type: none"> 1. Solar Energy generated by Net-metering/ bi-directional metering project is not eligible for Renewable Energy Certificate (REC). 2. The energy generated by an eligible consumer, who is not defined as an obligated entity from the rooftop solar PV projects under net-metering arrangement shall qualify as deemed Renewable Purchase Obligation (RPO) for the distribution licensee/ bulk supply licensee. The Distribution Licensee shall furnish a copy of solar energy generated by the eligible consumer to GRIDCO.