

ODISHA ELECTRICITY REGULATORY COMMISSION

On Net Metering/Bi-Directional Metering & Their Connectivity with respect to Solar PV Projects, Order, 2016, Dated: 19.08.2016 with amendment Dated: 17.01.2018

| Sl. No. | Description | Summary |
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| 1. | Control/Review Period | N.A. |
| 2. | Applicability | This Order applies to all solar power systems that are connected to the distribution system through an electrical service connection. The solar power system may be roof-mounted, ground-mounted, installed on an elevated structure or otherwise for captive use. |
| 3. | Cumulative Capacity | <ul style="list-style-type: none"> • It Commission has raised cumulative solar energy capacity at distribution transformer level from the earlier 30% of transformer capacity to 75% of transformer capacity. • There is no cap on the capacity of solar installation at a particular consumer level as long as it is within the limit of the connected load 75% of transformer capacity. The earlier restriction of 1 MW solar capacity at a single location is removed. |
| 4. | Net-metering / Bi-directional Metering based Solar PV Project | <p>The net metering/bi-directional metering based solar projects facilitates self-consumption of electricity generated by the project and allows for feeding the surplus energy into the network of the distribution licensee. In the context of the state of Odisha the following may be the ownership arrangements for installation of such net metering based solar systems:</p> <ul style="list-style-type: none"> ➤ Self-owned arrangement wherein 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 owner. <ul style="list-style-type: none"> ❖ Self Owned:- In a self owned, net metering/ bi-directional metering based solar PV model, the owner, who is also the electricity consumer for the utility installs the solar system at his own cost. The solar power generated in excess of the owner's electricity consumption is fed into the grid through a net-meter/ bi-directional meter. This net generation is then credited to the owner's account and adjusted subsequently against imports from the grid in the manner specified in this order. ❖ Third party Owned: In this arrangement, the installers can also offer an integrated service of leasing, commissioning and maintaining the systems to owners and guaranteeing standards of performance. The electricity generated from such a system is used to meet the owner's internal electricity needs while the excess generation is fed into the grid on net metering/bi-directional metering basis. |
| 5. | Capacity limits | The capacity of an individual solar PV system would be the available capacity of the service line connection, i.e. the sanctioned load of the consumer. If a consumer intends to install a Solar PV System of a capacity that exceeds the Contracted Load, the consumer shall submit an application for Contracted Load enhancement along with the Solar Net Metering application. |
| 6. | Interconnection Arrangements | Net-metering/bi-directional metering facility shall be extended to the solar power system installed in consumer premises. These consumers are the "eligible consumers" for the purpose of net-metering/ bi-directional metering. |

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| 7. | Application Fee | The consumer shall make an application in the prescribed format to the distribution utility along with a fee of INR 500/-. |
| 8. | Restrictions on level of overall or local grid penetration | <ul style="list-style-type: none"> • The quantum of electricity consumed by an eligible consumer, who is not defined as an obligated entity from the solar system under net-metering / bi-directional metering arrangement shall qualify as deemed Renewable Purchase Obligation (RPO) for the distribution licensee/bulk supplier. • The Commission may however increase/decrease the level of penetration and issue renewable energy penetration limits at overall grid level, if required in the future to ensure grid stability. |
| 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. These meters should be MRI and AMR compliant. One net meter/bi-directional meter (single phase or three phase as per requirement) capable of recording import and export of power in KWh is to be installed which shall be accepted by all for commercial settlement. 2. 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. 3. 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. 4. All the meters should also comply with IS-15959 (Indian Standards for Data Exchange for electricity meters). 5. 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. 6. Installation of Check meter for the solar energy system would be optional. |
| 10. | Energy Accounting | <ol style="list-style-type: none"> 1. Electricity generated from a Solar 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. 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. 2. The carry forward of excess energy generation will be allowed from one billing cycle to the next billing cycle till the end of the same financial year. Any excess generation (above 90 per cent) at the end of the financial year would be considered as free energy and shall not be offset against the consumer's consumption. There shall not be any carry forward of energy to the next 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 | <ol style="list-style-type: none"> 1. The consumer shall receive a monthly net import/export bill indicating either net export to the Grid or net import from the Grid. 2. 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. 3. In case of export of energy in excess of the consumption of the consumer in a billing cycle shall be carried forward to the next billing cycle for adjustment against next month's import bill if any. No interest will be payable on this carry forward energy amount. |
| 12. | Operation and Maintenance | <ol style="list-style-type: none"> 1. The solar PV projects shall comply with the relevant standards and guidelines specified by the MNRE / BIS and CEA. The responsibility of |

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| | | <p>operation and maintenance of the solar PV projects including all its accessories and apparatuses lies with the consumer. The inverters used should meet the necessary quality requirements as specified and checked by the Supply Engineer before putting into service. The protection logics should be tested before commissioning of the plant.</p> <ol style="list-style-type: none"> 2. The automatic isolation or islanding protection of solar PV projects should be ensured for, no grid supply, low or over voltage conditions and within the required response time. 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. 3. To prevent back feeding and possible accidents when there is no supply from distribution licensee's side, Double pole /Triple pole isolating disconnect switches which can be locked by distribution licensee personnel should be provided by the consumer. 4. The consumer shall comply with CEA/IEGC/OGC/OERC/distribution licensee's requirements with respect to safe, secure and reliable function of the Solar PV projects. |
| 13. | Applicability of Renewable Energy Certificates and RPO | <p>Solar Energy generated by Net-metering/ bi-directional metering project is not eligible for Renewable Energy Certificate (REC). The energy generated by an eligible consumer, who is not defined as an obligated entity from the solar PV projects under net-metering arrangement shall qualify as deemed Renewable Purchase Obligation (RPO) for the distribution licensee/ bulk supply licensee.</p> |