**Guidelines for Pre-Commissioning Check Before and After Connecting the RTSPV System With DISCOM Network and Steps for Maintenance of Network Where Such Connectivity Exists**

(For DISCOM Internal Purpose Only)

1. **Mandatory Safety Precautions/Features**

The following are mandatory safety precautions which will be taken care before and after commissioning of grid connected Solar PV system.

1. An inbuilt Inverter relay which trips on DISCOM supply failure and prevent any solar power injection to the DISCOM Network when there is no power from DISCOM. The anti-islanding protection shall be tested during the release of connection.
2. The solar PV system should be separately grounded / earthed. A minimum of two separate dedicated and interconnected earth electrodes must be used for the earthing of the PV system support structure, with a total earth resistance not exceeding 5 ohms.
3. Lightning arrestor also must be provided for SPV.
4. Manual isolator switch at an easily accessible location with locking facility shall be provided.
5. Caution stickers shall be used with the green back ground and the text “Solar PV Systems” written in white letters. The size of these stickers shall be 10 CM (width) x 7 CM (height) with the text clearly printed in the center of the sticker. (applicable to only 50 kW and above).
6. All SPV consumers should have a mandatory sign board fitted near the existing meter reading terminal stating that ‘This service is fitted with a LT grid connected SPV plant”. The solar PV system caution stickers shall be fixed at the following locations. (applicable to only 50 kW and above).
7. On or near to meter of service with grid connected solar PV system.
8. On the consumer main switch, of a service connected with a grid connected solar PV system.
9. On LT poles with grid connected solar PV systems at height of about 1.50 meter from the ground.
10. On LT feeder pillars with grid connected solar PV system on the street-facing door of the feeder pillar.
11. On each of the LT take off poles of a distribution transformer to which solar PV systems are connected.
12. On substation end of HT feeder having solar PV system.
13. A List of serviced connections of grid connected solar PV systems shall be available at the Division Office and 33/11 kV S/S.
14. A record may be maintained at the Division Office of each SPV plant’s commissioning date and other details.
15. The SPV connected details of pole/pillar box/DT/SS feeder end wise may be maintained at Division Office.
16. During planned/forced maintenance work on DISCOMs network, before taking up the work in hand, besides ensuring all other provisions such as line earthing, de-energization of the line section where the work is to carried out as per prevailing norms further it should be ensured that supply from such small solar roof-top PV power plants are not back feed and supply should also be disconnected by manual isolating switch with locking facility installed in the premises of such consumers and ensuring proper earthing.
17. The check list before release of connection.
18. **Component Inspection Checklist**

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| --- | --- | --- | --- |
| **Sr. No.** | **Item Type** | **Yes** | **No** |
| 1. | Installation Layout — is it as per drawing? (Applicable only for 50 kW above) |  |  |
| 2. | Inverter IS/IEC standards qualified |  |  |
| 3. | PV panel IS/IES standards qualified |  |  |
| 4. | PV isolators/PV cables IS/IES standards qualified |  |  |
| 5. | AC disconnect manual switch provided with locking arrangement |  |  |

1. **Grid Connected Functional Safety Checklist**

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| **Sr. No.** | **Item type** | **Yes** | **No** |
| 1. | Check whether solar generation stops automatically when DISCOM supply made off (inverter/PCU cut off) |  |  |
| 2. | Bi-directional flow recorded on Net meter |  |  |
| 3. | Solar generation meter ok? |  |  |
| 4. | Check all earthing points as per standard |  |  |
| 5. | Solar and bi-directional meter tested and sealed by DISCOM meter testing lab |  |  |
| 6. | Check whether manual Isolating switch is installed at accessible location  |  |  |
| 7. | Check whether manual Isolating switch stops feeding supply in DISCOM network when in OFF position |  |  |