F. No. 32/24/2019-SPV Division
Government of India
Ministry of New and Renewable Energy
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Block no. 14, CGO Complex,
Lodi Road, New Delhi -110003
Date: 26 September 2019

Notice for Stakeholder Consultation

Subject: Stakeholders consultation on draft Guidelines for Development of Decentralised Solar Power Plants.

With a view of promote decentralised use of solar energy and availability of affordable and reliable solar power in the rural areas, Ministry has formulated draft Guidelines for Development of Decentralised Solar Power Plants.

2. The draft Guidelines are attached herewith for stakeholder consultation. Stakeholders are requested to send their comments/suggestions/views on the above-mentioned Guidelines, in enclosed format, latest by 11.10.2019 at kVshobhit.srivastava@nic.in.

(J K Jethani)
Scientist-E

To
All concerned stakeholders

Format for submission of Comments on Draft Guidelines

S. No.	Para/Sub-Para	Comments/Views/Suggestions
1.		
2.		
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DRAFT

Guidelines for Development of Decentralised Solar Power Plants

I. Background

India is endowed with good solar radiations on almost all parts of the country. With cost of solar PV panels coming down, the cost of generation of electricity from solar power plants is now cheaper than the power from non RE resources. As per recent order of CERC the average power purchase cost from non RE sources is Rs 3.60 per unit which is much higher than Rs. 2.53 per unit of solar power discovered through bidding process very recently.

Solar power, which is available during day time is best suited for day loads particularly agriculture load. DISCOMs are providing power to agriculture loads either free or at highly subsidized tariff. With average T&D losses for a rural feeder being around 30%, the average cost of power purchased by a DISCOM to deliver one unit of power to agriculture consumer is over Rs. 6/- per unit.

If the solar power is generated locally and fed in to the 33/11 kV sub-station, it will not only save the cost to DISCOMs but also improve the power quality at the tail end of the rural feeder and thus improving the performance of electrical equipment and appliance connected to rural feeders which will also result in improved energy efficiency. Some of the States have taken such initiative and successfully implemented the same.

There are around 40,000 numbers of 33/11 kV Sub-Stations in the rural areas. Even if only 1 MW solar power is connected to each of these sub-station, a capacity of 40 GW solar would be added that will save around 26 BU annually against T&D losses, which is worth Rs. 9000 crore to DISCOMs. In addition there are 66/11 kV and 110/11 kV substations which can also act as anchor points for connecting small solar power generating plants.

A need has been felt to provide facilitative Guidelines for development of Decentralised Solar Power Plants so that same is implemented by all DISCOMs across the country.

II. Objective

Objective of these Guidelines is to provide a facilitative framework for development of Decentralised Solar Power Plants in the country.

III. Applicability of the Guidelines

These Guidelines are applicable for procurement of solar power by DISCOMs from Decentralised Solar Power Plants connected to rural distribution sub-stations of 33/11 kV, 66/11 kV and 110/11 kV in their area of jurisdiction.

IV. **Implementation Arrangements**

The Distribution companies (DISCOMs) will notify substation wise solar power capacity which can be injected in a particular rural distribution sub-station. Such capacities may be worked out on the basis of average energy/load requirement during day time. The DISCOM may decide the capacity of the solar plant permitted to be set up for connection to the grid, and the radius within which the same should be situated, for connection to specific substations. For example, in PM KUSUM scheme the provision is for solar power plants of individual capacity up to 2 MW within a prescribed range of distance from the rural distribution sub-station, preferably 5 km to avoid high cost of sub-transmission lines and losses. However, DISCOMs need not be constrained by the provisions of the PM KUSUM scheme and may decide the size and distance of the power plant allowed to be connected and feed power in to the grid. The solar power projects may be installed on any land, including agricultural lands by any individual/ cooperative/ company.

The solar power generated will be purchased by DISCOMs at a tariff determined through competitive bidding process. Selection of bidders will be based on the lowest tariff offered in the ascending order as quoted by the bidders in the closed bid or e-reverse auction as the case may be. The duration of PPA will be 25 years from Commercial Operation Date (COD) of the project.

The DISCOM shall provide connectivity at the sub-station and shall ensure "must-run" status to the solar plants by keeping the feeders 'ON' during sunshine hours of a day.

The key issues in setting up a solar plant includes, a) land identification, its acquisition and conversion; and b) laying of transmission line including getting ROW and connectivity to the sub-station. While DISCOMs are free to follow the traditional practice of the developer being given the responsibility of procuring land on its own and provide connectivity from the power plant to the sub-station, to make the scheme more attractive, DISCOMs may take upon themselves the task of acquiring waste land and providing connectivity for the same and floating tenders for these parcels of lands. In such cases unused barren land close to existing rural distribution sub-stations may be acquired by the DISCOMs and be made available to the successful bidder on lease or full cost or even free which would be reflected in lower tariffs. DISCOMs may also take the responsibility of evacuating solar power generated from these solar plants by laying 11 kV lines and connectivity to sub-station. With this arrangement the developer will get land and transmission facility leading to bidders quoting competitive rates of solar power. The DISCOM may charge fee from the developer for the created infrastructure, or alternatively may get benefit from lower quoted tariffs.

To resolve any issues arising during selection of solar power plants and implementation, a Committee under the chairmanship of MD, DISCOM (or an officer nominated for this purpose) will be setup.

In order to ensure only quality systems are installed, prevailing MNRE/BIS specifications and quality control orders applicable for solar modules, inverters, balance of system and other equipment shall be followed.

V. Selection of Decentralised Renewable Energy Power Plants

a. Request for Selection (RfS)

DISCOM shall assess and notify solar power capacity that can be injected in to identified distribution sub-stations of rural areas and place such notification on its website for information of all stakeholders. DISCOM or any agency authorized by the DISCOM shall invite bidders to participate in the open competitive bidding process against the Request for Selection (RfS) for development of solar power plants on build own and operate basis and to be connected to the identified distribution sub-station. The bidders shall submit their bid against the RfS as per the notified schedule.

The bidder shall submit non-refundable processing fee of Rs. 10,000 per MW or part thereof of the capacity applied along with the response of RfS. The Net-Worth of the bidders should not be less than Rs. 1.00 Crore per MW (of the capacity applied).

Based on the RfS notification, separate Technical and Financial bids will be submitted by the bidder. The financial bid shall clearly indicate tariff offered in Indian Rupees against total capacity for which the bid is submitted. Selection of bidders will be based on the lowest tariff offered in the ascending order as quoted by the bidders in the closed bid or e-reverse auction as the case may be, till the entire bid capacity is allocated. DISCOM may also prescribe a maximum tariff cap above which bids would not be expected.

There may be case where DISCOM may provide land and take responsibility of evacuation of solar power from SPP and may charge fee for such facilitation. In such cases, project-wise bids may be invited by DISCOM and the details of such facilitation and charges for the same must be indicated upfront in the RfS.

b. Connectivity with the sub-station

Solar Power Plant (SPP) may be connected at 11 kV side of sub-station and the selected bidder i.e. Solar Power Generator (SPG) will be responsible for laying of dedicated 11 kV line from SPP to sub-station, construction of bay and related switchgear at sub-station where the plant is connected to the grid and metering is done. The DISCOM will facilitate the SPG in getting right of way for laying of 11 kV line. Alternatively, SPG can get constructed the 11 kV lines through DISCOM by paying the applicable cost and other charges. SPG will be responsible for maintaining this dedicated 11 kV line. In case more than one bidders are awarded projects to be connected to same Sub-station, they shall be permitted to co-ordinate with each other for setting up common transmission line for feeding to Sub-Station if they so desire and with the approval of DISCOM. However, in North Eastern States, Sikkim, Jammu & Kashmir, Himachal Pradesh and Uttarakhand, Lakshadweep and A&N Islands, where

States/UTs allows RE plants of capacity less than 500 kW the plant may be connected through LT line subject to technical feasibility and approval by DISCOM. The SPG shall comply grid connectivity and other regulations as applicable.

c. Clearances required from the State Government and other local bodies

The SPG is required to obtain necessary clearances as required for setting up the SPP.

d. Power Purchase Agreement (PPA)

A copy of standard Power Purchase Agreement to be executed between the DISCOM and the SPG shall be provided by DISCOM along with RfS. Within two months of the date of issue of Letter of Award (LoA) by DISCOM or any agency authorized by the DISCOM, the Power Purchase Agreement (PPA) will have to be executed by SPG. The PPA shall be for a period of 25 years from the date of COD. The DISCOM will be obliged to buy the entire power from SPG within the contract capacity. However, the SPG is required to achieve a minimum CUF of 15% on annual basis during the PPA period. However, in case of low Solar radiation zones, minimum CUF can be revised by concerned DISCOM. The SPG will be free to operate the plant after expiry of the 25 years of PPA period if other conditions like land lease, etc., permits. However, any extension of the PPA period beyond 25 years shall be through mutual agreements between the SPG and DISCOM. As a payment security measure DISCOM will have to maintain LC and Escrow Arrangement as defined in the PPA.

e. Bank Guarantees

The SPG shall provide the following Bank Guarantees to DISCOM as follows:

- Earnest Money Deposit (EMD) of Rs. 1 Lakh/MW in the form of Bank Guarantee along with EoI.
- Performance Bank Guarantee (PBG) of Rs. 5 Lakh/MW within 30 days from date of issue of Letter of Award.

The Bank Guarantees against EMD shall be returned to the selected SPG on submission of valid PBGs. The selected SPGs are required to sign PPA with the DISCOM in line with the timeline given in the Guidelines. In case, the selected SPG fails to execute the PPA within the stipulated time period, the Bank Guarantee equivalent to EMD shall be en-cashed by DISCOM as penalty. In case any bidder is not selected, DISCOM shall release the EMD within 15 days of the date of issue of LoA to selected SPG(s). The PBGs shall be valid for a period of 12 months from the date of issue of LoA for the SPP. The PBG will be returned to the SPG immediately after successful commissioning of solar power plant, after taking into account any penalties due to delay in commissioning as per provisions stipulated in the Guidelines.

f. Commissioning

In case land and connectivity is being provided by the DISCOM, the selected SPG shall commission the solar power plant within nine months from date of issuance of LoA. In other cases, the commissioning shall be done within 12 months of issuance of LoA. The SPG may commission the SPP during this period of nine months and the DISCOM is obliged to purchase power from that commissioned SPP any time after the issuance of LoA. A duly constituted Committee of DISCOM officials will physically inspect the Plant in not more than 03 days from the date of receiving a call from the SPG and certify successful commissioning of the plant. In case any SPG fails to achieve this milestone, DISCOM shall encash the Performance Bank Guarantee (PBG) in the following manner:

a. Delay up to two months - The PBG on per day basis and proportionate to the balance capacity not commissioned.

b. In case the commissioning of the solar power plant is delayed over two months, the PPA capacity shall stand reduced / amended to the Project capacity commissioned at the end of 11th /13th month (as the case may be) from date of issuance of Letter of Award.

In case of delays of plant commissioning due to the reasons beyond the control of the SPG, DISCOM after having been satisfied with documentary evidences produced by the SPG for the purpose, can extend the time for commissioning date without any financial implications to the SPG.

g. Shortfall in minimum generation

During PPA, if for any year, it is found that the SPG has not been able to generate minimum energy corresponding to CUF of 15% or as prescribed by DISCOMs; such shortfall in performance shall make SPG liable to pay the compensation as provided in the PPA to the DISCOM. This will, however be relaxable to the extent of grid non-availability for evacuation, which is beyond the control of the SPG. Further, this compensation shall not be applicable in events of Force Majeure identified under PPA with DISCOM affecting supply of solar power by SPG.

h. Commercial Operation Date (COD)

The Commercial Operation Date (COD) shall be considered as the actual date of commissioning of the solar power plant as declared by the Commissioning Committee.

VI. Roles and responsibilities of stakeholders:

i. Ministry of New and Renewable Energy:

Ministry will issue specifications and quality control orders applicable for solar modules, inverters, BoS and other equipment from time to time.

ii. **DISCOMs:**

The DISCOMs shall declare the solar power capacity that can be connected to a rural distribution sub-station and carry-out the procedure for selection of SPG. On selection of SPG, DISCOMs shall issue the LoA and sign PPA with SPG. DISCOMs will provide connectivity at the sub-station to the selected SPG. The DISCOMs will ensure "must-run" status to the solar power plants installed and will keep the feeders 'ON' during sunshine hours of a day. They shall act as facilitator to the SPG for installation and operation of SPP.

iii. **State Nodal Agency (SNA):**

State Nodal Agency (SNA) will coordinate with DISCOMs and will assist the SPG in getting necessary clearances and project development activities

iv. **Solar Power Generator (SPG):**

Individual/cooperative/company would be the SPG. They have to participate in the selection process to be carried out by DISCOMs. In case of selection, they shall sign PPA and install the plant as per provisions of RfS and applicable rules and regulations.

VII. **Performance Monitoring:**

All solar power plants shall comply the Grid Regulations. They must install necessary equipment to continuously measure performance of the plant. They will be required to submit all vital data of the plant to DISCOM through on-line platform for the entire duration of PPA.