

F. No. 32/645/2017-SPV Division  
Government of India  
Ministry of New and Renewable Energy  
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Block-14, CGO Complex,  
Lodhi Road, New Delhi  
Dated: 22 July, 2019

**Office Memorandum**

Subject: Guidelines for implementation of Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhiyan Scheme.

This refers Ministry's OM of even number dated 8.3.2019 vide which sanction was issued for launch of New Scheme for Farmers covering following three Components:

- i. Component A: 10,000 MW of Decentralized Ground Mounted Grid Connected Renewable Power Plants of individual plant size up to 2 MW.
  - ii. Component B: Installation of 17.50 lakh standalone Solar Powered Agriculture Pumps of individual pump capacity up to 7.5 HP.
  - iii. Component C: Solarisation of 10 Lakh Grid-connected Agriculture Pumps of individual pump capacity up to 7.5 HP.
2. The Scheme will be called as Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhiyan (PM KUSUM) Scheme. The operational Guidelines for implementation of the PM KUSUM Scheme are enclosed.
3. This issues with the approval of Competent Authority.

Enclosed: As above.

To  
All Concern

  
(J K Jethani)  
Scientist-E

## Ministry of New and Renewable Energy

### Guidelines for Implementation of Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhivan (PM KUSUM) Scheme

#### **1. Background**

As a part of Intended Nationally Determined Contributions (INDCs), India has committed to increase the share of installed capacity of electric power from non-fossil-fuel sources to 40% by 2030.

The Cabinet had approved scaling-up of solar power target from 20,000 MW of Grid Connected Solar power Projects to 1,00,000 MW by 2022.

While Large Scale Solar power generation projects are being installed to achieve the ambitious target of 100 GW of Solar Power generation by 2022, it has been planned to simultaneously develop decentralized Solar energy and other renewable energy generation Plants of capacity up to 2 MW which could be connected directly to existing 33/11 kV or 66/11 kV or 110/11 kV sub-stations of Distribution Company, thus saving in transmission system requirement apart from T&D losses. Such plants near these sub-stations may be developed, preferably by farmers, giving them an opportunity to increase their income by utilising their barren and uncultivable land for solar or other renewable energy based power plants. Cultivable land may also be used if the Solar plants are set up on stilts where crops can be grown below the stilts and sell RE power to DISCOMs.

Besides, developing decentralized renewable power, it is planned to replace Agriculture Diesel pumps with Solar Water pumps and Solarise Grid connected Agriculture pumps. At present, over 30 million agricultural pumps are installed in India, out of which nearly 10 million pumps are diesel based. The Distribution Companies (DISCOMs) are not in a position to energize these pumps through grid connection as seen from the long waiting lists with such Distribution Companies. Hence there is a need to provide energy to these pumps through solar energy. Also, over 20 million grid-connected agriculture water pumps installed in the country consume more than 17 percent of total annual electricity consumption of the country. Solarization of the same can reduce dependence of these pumps on conventional sources of energy supplied by DISCOMs and thus reducing their burden of subsidy on agriculture consumption of Electricity. This will also provide additional source of income to farmers who will be in a position to sell the surplus power to DISCOMs.

The new Scheme has provision for the decentralised renewable energy plants, Solar agriculture water pumps and solarisation of existing Grid connected Agriculture pumps.

#### **2. Approval of the New Scheme for Farmers**

The Government of India has launched New Scheme for Farmers with following components:

- i. **Component-A: Setting up of 10,000 MW of Decentralized Ground/ Stilt Mounted Grid Connected Solar or other Renewable Energy based Power Plants;**
- ii. **Component-B: Installation of 17.50 Lakh Stand-alone Solar Agriculture Pumps; and**

iii. **Component-C: Solarisation of 10 Lakh Grid Connected Agriculture Pumps.**

The Component-A and Component-C will be implemented initially on pilot mode for 1000 MW capacity and one lakh grid connected agriculture pumps respectively and Component-B will be implemented in full-fledged manner with total Central Government support of Rs. 19,036.5 Crore.

After successful implementation of pilot project of Components A and C, the same shall be scaled up with necessary modifications based on the learning from the pilot phase with total Central Government support of ₹ 15,385.5 Crores.

All three components of the scheme aim to add Solar capacity of 25,750 MW by 2022 with the total Central Financial Support of ₹ 34,422 crore.

### **3. Implementation mechanism:**

These guidelines have been formulated to provide broad implementation framework of the Scheme.

#### **I. Component A: Setting up of 10,000 MW of Decentralized Ground/Stilt Mounted Grid Connected Solar or other Renewable Energy based Power Plants**

Under this component, solar or other renewable energy based power plants (REPP) of capacity 500 kW to 2 MW will be setup by individual farmers/ group of farmers/ cooperatives/ panchayats/ Farmer Producer Organisations (FPO)/Water User associations (WUA) hereinafter called Renewable Power Generator (RPG). However, States/DISCOMs may allow setting-up of solar or other renewable energy based power plants of capacity less than 500 kW in specific cases. The REPP will be preferably installed within five km radius of the sub-stations in order to avoid high cost of sub-transmission lines and to reduce transmission losses.

The Distribution companies (DISCOMs) will notify sub-station wise surplus capacity which can be fed from such RE power plants to the Grid and shall invite applications from interested beneficiaries for setting up the renewable energy plants. The renewable power generated will be purchased by DISCOMs at a pre-fixed levelised tariff. In case, the aggregate capacity offered by Applicants is more than notified capacity for a particular sub-station, bidding route will be followed by DISCOMs to select Renewable Power generator and in such cases the pre-fixed levelised tariff will be the ceiling tariff for bidding. 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. A model PPA (Power Purchase Agreement) to be executed between RPG and DISCOMs has been prepared by MNRE and attached at Annexure-I. The duration of PPA will be 25 years from Commercial Operation Date (COD) of the project. The total energy purchased from these RE plants will be accounted for fulfillment of RPO by the DISCOM.

In case the farmers/ group of farmers/ cooperatives/ panchayats/ Farmer Producer Organisations (FPO)/ Water User associations (WUA) etc. are not able to arrange equity required for setting up the REPP, they can opt for developing the REPP through developer(s) or even through local DISCOM, which will be considered as RPG in this case. In such a case, the land owner will get lease rent as mutually agreed between the parties. The lease rent may be in terms of Rs per year per acre of land or in terms of Rs per unit energy generated per acre

of land area. The farmer(s) may opt for payment of lease rent directly in their bank account by the DISCOM, from the payment due to the developer. A model Land Lease Agreement to facilitate the beneficiaries has been prepared by MNRE and is attached at Annexure-II. However, the terms of Land Lease Agreement may be finalised on mutual consent of concerned parties.

The REPP under the scheme would be implemented primarily on Barren / uncultivable land. Agricultural land is also permitted under the scheme provided that solar plants are installed in stilt fashion (i.e. raised structure for installation of Solar panels) and with adequate spacing between panel rows for ensuring that farming activity is not affected. The RPG would be free to adopt any renewable energy source or technology while responding to the bid. However, in case of cultivable land with solar plants, the same may be installed on stilts, so that the farmers continue to cultivate the land, apart from getting the benefit of lease rent. In such a case DISCOM may also float bids (in case of specific substations) where setting up of solar projects on stilts may be mandatorily required, and bids for energy tariff invited accordingly.

## **A. Selection and Implementation of Decentralised Renewable Energy Power Plants**

### **a. Notification of sub-station wise generation capacity**

DISCOM shall assess and notify RE generation capacity that can be injected in to all 33/11 kV or 66/11 kV or 110/11 kV sub-station of rural areas and place such notification on its website for information of all stakeholders. To facilitate farmers willing to lease out their land for development of RE plants near above notified substation(s), as per provisions of this scheme, DISCOM may also place list of such farmers on their website. However, the leasing of land of any farmers will be a bi-partite agreement between the farmer and the developer and DISCOM will not be held responsible for failure in getting the land leased out to a developer. To meet additional demand DISCOM will augment the capacity of sub-station under IPDS or any other scheme.

### **b. Expression of Interest (EoI) for Short-listing of RPG**

DISCOM or any agency authorized by the DISCOM shall invite 33/11 kV or 66/11 kV or 110/11 kV sub-station wise EoI from RPG to participate in selection process for development of decentralised renewable power plants. The RPG shall submit their interest against the EoI as per the schedule notified by DISCOM. An RPG will not be allowed to apply for more than one renewable power plant for a particular 33/11 kV sub-station. The EoI of an RPG will also be disqualified if it is found that its proprietor/partner/director/member has also filed EoI as proprietor/partner/director/member for another RPG for the same sub-station.

The DISCOM or any agency authorized by the DISCOM may request to submit non-refundable processing fee from the interested RPGs, which in no case shall be higher than Rs. 5000 per MW or part thereof of the capacity applied for.

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

In case of REPP being developed by a developer, the Net-Worth of the developer should not be less than Rs. 1.00 Crore per MW (of the capacity applied). This shall not be applicable for

farmers cooperative or panchayats or Farmer Producer Organisations (FPO) /Water User associations (WUA) or farmers setting up REPP in their own lands.

**c. Selection of REPP**

In case the total aggregate capacity of eligible applications received for a particular sub-station is less than or equal to the capacity notified for connectivity at the sub-station, LoA will be awarded to all eligible applicants for procurement of renewable power at a pre-fixed levelised tariff.

In case the total aggregate capacity of eligible application received for a particular sub-station is more than the capacity notified for connectivity at the sub-station, then DISCOM or any agency authorized by the DISCOM shall invite Bids from all these applicants. All eligible applicants will have to submit tariff bids within a prescribed time. 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. LoA will be awarded to all successful bidders.

**d. Connectivity with the sub-station**

REPP of capacity up to 2 MW may be connected at 11 kV side of sub-station and the selected RPG will be responsible for laying of dedicated 11 kV line from REPP 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 RPG in getting right of way for laying of 11 kV line. Alternatively, RPG can get constructed the 11 kV lines through DISCOM by paying the applicable cost and other charges. RPG 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 RPG shall comply grid connectivity and other regulations as applicable.

**e. Clearances required from the State Government and other local bodies**

The RPG is required to obtain necessary clearances as required for setting up the REPP.

**f. Power Purchase Agreement (PPA)**

A copy of standard Power Purchase Agreement to be executed between the DISCOM and the RPG shall be provided by DISCOM along with invitation for submission of EoI. The model PPA agreement shall be as provided by MNRE (Copy enclosed). 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 RPG. 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 RPG within the contract capacity. However, the RPG 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 RPG 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 RPG and DISCOM. As a payment security measure DISCOM will have to maintain LC and Escrow Arrangement as defined in the PPA.

#### **g. Bank Guarantees**

The RPG 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 RPG on submission of valid PBGs. The selected RPGs are required to sign PPA with the DISCOM in line with the timeline given in the Guidelines. In case, the selected RPG 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 RPG(s). The PBGs shall be valid for a period of 12 months from the date of issue of LoA for the REPP. The PBG will be returned to the RPG 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.

#### **h. Commissioning**

The selected RPG shall commission the solar power plant within nine months from date of issuance of LoA. The RPG may commission the REPP during this period of nine months and the DISCOM is obliged to purchase power from that commissioned REPP 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 RPG and certify successful commissioning of the plant. In case any RPG 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 11<sup>th</sup> month from date of issuance of Letter of Award.

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

#### **i. Shortfall in minimum generation**

During PPA, if for any year, it is found that the RPG has not been able to generate minimum energy corresponding to CUF of 15% or as prescribed by DISCOMs; such shortfall in performance shall make RPG 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 RPG. Further, this compensation shall not be applicable in

events of Force Majeure identified under PPA with Discom affecting supply of solar power by RPG.

**j. 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.

**k. Release of PBI to DISCOM**

DISCOM would be eligible to get PBI @ Rs. 0.40 per unit purchased or Rs. 6.6 lakh per MW of capacity installed, whichever is less, for a period of five years from the COD. However, to avail the PBI, DISCOM shall submit following documents after completion of one year from the COD and every year thereafter till five years:

- Timely payment of monthly lease rent, if applicable, to the land owner of the project.
- Monthly units purchased from the plant and corresponding payment made to the project developer.

Applicable PBI would be released to the DISCOM after submission of these documents by DISCOM to MNRE.

**B. Roles and responsibilities of stakeholders:**

**(i) Ministry of New and Renewable Energy:**

MNRE shall allocate initial capacity of 1000 MW for Pilot Project to DISCOMs based on their demand and readiness for implementation. Pilot projects will be continuously monitored during implementation and also on completion to evaluate their success and a detailed report will be prepared for recommending further scaling up of the capacity under this component. Such evaluation may be done internally or through external agency as per decision of the MNRE.

Ministry will issue Model PPA and model Lease Agreement for implementation of the scheme.

MNRE will provide Procurement Based Incentive (PBI) to the DISCOMs @ 40 paise/kWh or Rs.6.60 lakhs/MW/year, whichever is lower, for buying solar/ other renewable power under this scheme. The PBI will be given to the DISCOMs for a period of five years from the Commercial Operation Date of the plant. Therefore, the total PBI that shall be payable to DISCOMs will be Rs. 33 Lakh per MW.

**(ii) DISCOMs:**

The DISCOMs shall have to send their demand for sanction under the scheme along with details on their readiness to implement the component A of the scheme.

The concerned DISCOM shall declare the renewable power capacity that can be connected to a 33/11 kV sub-station and carry-out the procedure for selection of RPG. On selection of RPG, DISCOMs shall issue the LoA and sign PPA with RPG. DISCOMs will provide connectivity at the sub-station to the selected RPG. The DISCOMs will ensure “must-run” status to the solar/ other renewable power plants installed under this scheme and will keep the feeders ‘ON’

during sunshine hours of a day. They shall act as facilitator to the beneficiaries in implementation of this scheme.

In case, RPG has taken land from a farmer/group of farmers on lease for the project, the amount of monthly lease rent would be paid by the DISCOMs to the lessor directly in his/her bank account before 5<sup>th</sup> day of the month following the month for which the lease rent is due. In such a case, the lease rent paid by the DISCOM will be deducted from monthly payment due to the RPG.

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

State Nodal Agency (SNA) will coordinate with States/UTs, DISCOMs and farmers for implementation of the scheme. They will assist the farmers in project development activities including formulation of DPR, PPA/EPC contracts, getting funds from financial institutions, etc. For settlement of any issues arising during selection of solar/ other renewable energy based power plants and their implementation, a State level Committee under the chairmanship of Principal Secretary (Renewable Energy/Energy) will be setup by the participating State/UT and SNA of that State will be responsible to coordinate/organize the quarterly meetings of the State Level Committee. In addition, SNAs shall ensure publicity of the scheme and create awareness through advertisements etc, and also monitor the implementation of the scheme. The SNA will be eligible to get service charge of Rs.0.25 Lakh per MW after commissioning of the projects.

**(iv) Renewable Power Generator (RPG):**

Individual farmers/ group of farmers/ cooperatives/ panchayats/ Farmer Producer Organisations (FPO) /Water User associations (WUA) or projects developer would be the RPG. They have to participate in the selection process to be carried out by DISCOMS. In case of selection, they have to sign PPA and install the plant as per provisions of these guidelines and applicable rules and regulations.

## **II. Component B: Installation of 17.50 Lakh Stand-alone Solar Pumps**

Under this Component, individual farmers will be supported to install standalone solar Agriculture pumps of capacity up to 7.5 HP for replacement of existing diesel Agriculture pumps / irrigation systems in off-grid areas, where grid supply is not available. Installation of new pumps shall also be permitted under this scheme except in dark zone areas. Pumps of capacity higher than 7.5 HP may be allowed, however, the CFA will be limited to the CFA applicable for pump of 7.5 HP. Water User Associations and community/cluster based irrigation system will also be covered under this component. However, priority would be given to small and marginal farmers. In order to minimize the water usage for irrigation purpose, preference will be given to the farmers using Micro irrigation systems or covered under Micro irrigation schemes or who opt for micro irrigation system. The size of pump would be selected on the basis of water table in the area, land covered and quantity of water required for irrigation.

Solar PV capacity in kW for the pump capacity in HP will be allowed as per MNRE specifications under the scheme It will be mandatory to use indigenously manufactured solar panels with indigenous solar cells and modules. Further, the motor-pump-set, controller and balance of system should also be manufactured indigenously. The vendor has to declare the list of imported components used in the manufacturing of solar water pumping system.