

# Jawaharlal Nehru National Solar Mission

## Guidelines for Development of Solar Parks

Government of India

Ministry of New & Renewable Energy

February, 2016

## **1. BACKGROUND AND INTRODUCTION**

### **Preamble:**

The Jawaharlal Nehru National Solar Mission is a major initiative of the Government of India with active participation from States to promote ecologically sustainable growth while addressing India's energy security challenge. It will also constitute a major contribution by India to the global effort to meet the challenges of climate change.

India, with its large population and rapidly growing economy, needs access to clean, cheap and reliable sources of energy. India lies in the high solar insolation region, endowed with huge solar energy potential with most of the country having about 300 days of sunshine per year with annual mean daily global solar radiation in the range of 4 - 6 kWh/m<sup>2</sup>/day.

Solar power projects can be set up anywhere in the country, however the scattering of solar power projects leads to higher project cost per MW and higher transmission losses. Individual projects of smaller capacity incur significant expenses in site development, drawing separate transmission lines to nearest substation, procuring water and in creation of other necessary infrastructure. Also it takes a long time for project developers to acquire land, get change of land use and various permissions, etc. which delays the project.

### **2. Concept of Solar Park**

The solar park is a concentrated zone of development of solar power generation projects and provides developers an area that is well characterized, with proper infrastructure and access to amenities and where the risk of the projects can be minimized. Solar Park will also facilitate developers by reducing the number of required approvals.

Large size projects have a potential to bring down the cost of Solar Power. Therefore, Ultra Mega Solar Power Projects having capacity of 500 MW or above have been planned in India. Large chunks of land are available in some States for solar park development. There are some developers who are keen to individually take up very large projects. Land has so far been identified in Gujarat, Madhya Pradesh, Rajasthan, Telangana, Andhra Pradesh, Arunachal Pradesh, Karnataka, Kerala, Uttar Pradesh, Meghalaya, Nagaland, Punjab, Tamil Nadu, Andaman & Nicobar Islands and Uttarakhand. Smaller parks in Himalayan & other hilly States where contiguous land may be difficult to acquire in view of the difficult terrain are also being considered. Smaller parks are also being considered in States where there is acute shortage of non-agricultural lands.

### **3. Scope**

MNRE has rolled out a scheme plans to set up 25 solar parks, each with a capacity of 500 MW and above; thereby targeting around 20000 MW of solar power installed capacity. These solar parks will be set up within in a span of 5 years commencing from 2014-15 and the solar projects may then come up as per demand and interest shown by developers.

At the State level, the solar parks will enable the States to bring in significant investment from project developers, meet its Solar Renewable Purchase Obligation (RPO) mandate and provide employment opportunities to local population. The State will also reduce its carbon footprint by avoiding emissions equivalent to the solar park's installed capacity and generation. Further, the State will also avoid procuring expensive fossil fuels to power conventional power plants.

The solar park will provide a huge impetus to solar energy generation by acting as a flagship demonstration facility to encourage project developers and investors, prompting additional projects of similar nature, triggering economies of scale for cost-reductions, technical improvements and achieving large scale reductions in GHG emissions. Some Ultra Mega Solar Power Projects may be set up in these Parks or the entire park may individually be an Ultra Mega Solar Power Project.

MNRE has notified the administrative approval on 12<sup>th</sup> December, 2014 for implementation of a Scheme for Development of Solar Parks and Ultra Mega Solar Power Projects in the country commencing from 2014-15 and onwards (i.e. from the year 2014 – 15 to 2018 – 19), is annexed as **Annexure-I**.

#### **4. Status and Achievement of Solar Park**

Consequent to the above notification, the Ministry received consent from the following States for setting up of Solar Parks and Ultra Mega Solar Power Projects, in their respective States. The details are tabulated below:

<b>Sl. No.</b>	<b>State</b>	<b>Capacity (MW)</b>	<b>Name of the Solar Power Parks Developer (SPPD)</b>	<b>Land identified at</b>
1.	Gujarat	700	GPCL	1407 hectares at Vav, Distt. Banaskantha
2.	Andhra Pradesh	1500	AP Solar Power Corporation Pvt. Ltd., JVC of SECI, APGENCO and NREDCAP	3058 hectares at Anantpuramu, Kadapa Districts
3.	Andhra Pradesh	1000		1458 hectares at Kurnool District
4.	Uttar Pradesh	600	Lucknow Solar Power Development Corporation Ltd.; JVC of UPNEDA and SECI	1038 hectares at Jalaun, Sonbhadra, Allahabad & Mirzapur districts
5.	Meghalaya	20	Meghalaya Power Generation Corporation Ltd (MePGCL)	27 hectares at West Jaintia Hills & East Jaintia Hills districts
6.	Rajasthan	680	Rajasthan Solar Park Development Company Ltd. (RSDCL), a subsidiary of RRECL	1797.45 hectares at Bhadla Phase II

Sl. No.	State	Capacity (MW)	Name of the Solar Power Parks Developer (SPPD)	Land identified at
7.	Rajasthan	1000	Surya Urja Company of Rajasthan Ltd; a JVC between State Govt. and IL & FS Energy Development Company Ltd	2000 hectares at Bhadla Phase III
8.	Rajasthan	1000	Surya Urja Company of Rajasthan Ltd; a JVC between State Govt. and IL & FS Energy Development Company Ltd	2000 hectares at Jaisalmer Phase I
9.	Rajasthan	500	M/s Adani Renewable Energy Park Rajasthan Limited (AREPRL); a JVC of Government of Rajasthan and APEPRL.	Bhadla Phase IV, Bhadla, Jodhpur Rajasthan
10.	Madhya Pradesh	750	Rewa Ultra Mega Solar Limited; a JVC of SECI and MPUVNL	1400 hectares at Rewa
11.	Madhya Pradesh	2000	Rewa Ultra Mega Solar Limited; a JVC of SECI and MPUVNL	6000 hectares at Neemuch, Agar, Mandsaur, Shajapur, Rajgarh, Chhatarpur and Morena
12.	Karnataka	2000	Karnataka Solar Power Development Corporation Pvt. Ltd. (KSPDCL); JVC of SECI and KREDAL.	Pavagada taluk Tumkur dist. (2429 hectares)
13.	Tamil Nadu	500	To be finalised	1405 acres at Ramanathapuram distt. (568 hectare)
14.	Telangana	1000	SECI, Telangana GENCO and Telangana New & Renewable Energy Development Corporation Ltd. (TNREDC)	5408 acres at Gattu, Mehboob Nagar Distt. (2189 hectare)
15.	Kerala	200	JVC of SECI and KSEB	Paivalike, Meenja, Kinanoor, Kraindalam and Ambalathara villages of Kasargode district (4858 hectares)
16.	Uttarakhand	39	UJVN Limited	Almora district (77.853 hectares)

Sl. No.	State	Capacity (MW)	Name of the Solar Power Parks Developer (SPPD)	Land identified at
17.	Arunachal Pradesh	100	Arunachal Pradesh Energy Development Agency (APEDA)	2700 acres of waste land Digaru Paya region in Sonpura circle of Lohit district
18.	Nagaland	60	Directorate of New & Renewable Energy, Nagaland	Dimapur, Kohima and New Peren districts
19.	A&N Islands	100	NTPC	South Andaman
20.	West Bengal	500	West Bengal State Electricity Distribution Company Ltd.	East Mednipur, West Mednipur, Bankura
21.	Himachal Pradesh	1000	HP State Electricity Board Ltd.	Spiti Valley of Lahaul & Spiti District
22.	Assam	69	JVC of APDCL, APGCL & SECI	Amguri in Sibsagar district
23.	Maharashtra	500	M/s Pragat Akshay Urja Ltd	Sakri, Dhule district of Maharashtra
24.	Chhattisgarh	500	To be finalized	To be finalized
25.	Jammu & Kashmir	100	To be finalized	To be finalized
26.	Andhra Pradesh	1000	AP Solar Power Corporation Pvt. Ltd., JVC of SECI, APGENCO and NREDCAP	Kadapa District
27.	Odisha	1000	JVC of GEDCOL & SECI	To be finalized
<b>27 Solar Parks in 21 States with aggregate capacity of 18,418 MW</b>				

## 5. Role of State Government

Land for setting up of the Solar Park will be identified by the State Government unless the implementing agency has its own land. In order to provide for such a large tract of contiguous land with appropriate insolation levels, the State Government may prioritize the use of government waste/ non-agricultural land in order to speed up the acquisition process. The use of private land may be minimised. The price of the land is to be kept as low as possible in order to attract the developers and, therefore, the site should be selected in such a manner so that inexpensive land can be made available. If land cannot be made available in one location, then land in few locations in close vicinity may be taken. Possibility of using cold and hot deserts, sides of highways can also be actively explored. The solar parks are preferred to be closer to Central Transmission Utility (CTU). The park must have at least 5 acres per MW towards installation of solar projects and will give opportunity for use of all technologies in a technologically agnostic fashion.

All infrastructural requirements outside the park such as connecting road, provision of water supply, construction electricity, etc. to make the park functional, will be the sole responsibility of the concerned State Government.

The State Government will propose solar parks under the Scheme including private solar parks.

The State Government will also decide the Solar Power Park Developer (Implementing Agency)

## **6. Role of Solar Power Park Developer (SPPD)**

The Implementing Agency of Solar Park as defined in the Scheme is re-designated as the Solar Power Park Developer (SPPD). The SPPD will be nominated by the State Government for development of solar parks as per the procedure given in the Scheme for the solar park. The SPPD is tasked with acquiring the land for the Park, cleaning it, levelling it wherever considered desirable and allocating the plots for individual projects. The detailed role and responsibility is given in the solar park Scheme.

CERC in its Regulations notified on 15th May, 2015, have included SPPD as an applicant for getting Connectivity and Long Term Access (LTA) and have also defined their functions accordingly. Therefore, this Ministry shall authorize the SPPD to carry out the activities as required as per the amendments notified by CERC vide its notifications dated 15th May, 2015 in addition to actions being /to be carried out as the Scheme for “Development of Solar Park and Ultra Mega Solar Power Projects”.

The SPPD will be responsible for creating the internal transmission network on behalf of the solar project developers. This network will connect with the Intra State Transmission System (ISTS) or State Transmission System. The transmission network within the solar park will be captive / dedicated transmission system of the solar project developers of the park.

Following are the essential responsibilities of SPPD:

- i) Acquisition of land
- ii) Getting land related clearances
- iii) Developing approach road to each plot
- iv) Developing internal transmission system and maintaining it.
- v) Making arrangement to connect to the grid i.e. ISTS or State Transmission Network.
- vi) Providing basic drainage.
- vii) Providing water supply (minimum essential quantity)

Following are the optional responsibilities of the SPPD:

- i) Levelling and developing of land (to be avoided as far as possible).
- ii) Construction of offices, housing and common building infrastructures.
- iii) Forecasting, Scheduling
- iv) O&M or related functions.

- v) Solar radiation data
- vi) Metalled road to all plots and within plots to each array
- vii) Maintenance of internal power supply and water supply.
- viii) Security
- ix) Cleanliness and waste disposal
- x) Technical support services (consultancy etc.).

## 7. Role of Solar Energy Corporation

Solar Energy Corporation of India (SECI) may also receive proposals in a prescribed format (**Annexure II**) for setting up solar power parks and forward to MNRE with their recommendation. Upon receipt of proposal at MNRE, an in-principle approval will be accorded. SECI will ensure that the SPPD prepares and submits the DPR in 60 days after the fund for preparation of DPR is released by MNRE through SECI.

Based on the application made by the SPPD to SECI for grant of up to Rs. 20 lakh/MW or 30% of the project cost including Grid-connectivity cost, whichever is lower, SECI will forward a request to MNRE. MNRE will thereafter, sanction a grant to SECI as per the following milestones:

Sl. No.	Milestone	% of subsidy disbursed
1	Date of issue of administrative approval	5%
2	Land acquisition (not less than 50% land acquired)	20%
3	Financial Closure	20%
4	Construction of Pooling Substation, Land Development and other Common facilities as per DPR	25%
5	Construction of transmission line and Grid Connectivity	20%
6	Final instalment on completion	10%
Total		100%

After administrative approval is given, MNRE will release 5% of the grant to SECI, for onward release to the SPPD.

Before release of 20% of the grant, SECI will have to ensure that 50% of the Land has been acquired by the SPPD, for which they will provide documentary evidence in support of the claim made by the SPPD.

Similarly, SECI will also have to ensure financial closure is achieved by the SPPD, for which they will provide documentary evidence in support of the claim made by the SPPD, before release of next 20% of the grant. To achieve financial closure, SPPD has to mobilize funds to an extent of 90% of the total project cost. The "Financial Closure" may be defined as arrangement of necessary funds by the Solar Power Park Developer (SPPD) either by way of commitment of funds by the SPPD from internal resources of its own or of the promoters / Joint Venture partners of the SPPD or tie up of funds through a bank / financial institution by way of sanction of a loan or letter agreeing to finance; grants from Government or other sources or accruals from sale / lease / right to use of the land in the park. While commitment of funds from internal resources or loan may be by the way of letter, commitment for proceeds from sale / lease / right to use of land

may come from the SPPD in the form of a statement giving year wise expected accruals. The inflow of funds expected over the years should be enough to cover expected expenses in developing the park.

SECI will coordinate with SPPD for construction of pooling substation, land development and other common facilities as per DPR and ensure completion as per timeline.

SECI will also coordinate with Power Grid Corporation of India Limited (PGCIL) for construction of transmission line and grid connectivity and ensure that there is no mismatch in commissioning of solar projects and that of transmission lines.

SECI will develop a web enabled monitoring system for monitoring progress of solar parks. This will also have a provision for uploading photographs of solar parks.

### **8. Development/Operation and Maintenance of the Solar Park**

The SPPD will be responsible for development of the Solar Park and its facilities, to the extent that the selected Solar Project Developers will be able to set up their solar power projects and the CTU shall be able to undertake the inter-connection work of Transmission to its ISTS for evacuation of solar power by solar project developers from the pooling station for Intra-State sale or Inter-State sale, on a Plug-and-Play model.

The SPPD will also be responsible for Operation and Maintenance of the Solar Park for a period of 25 years. The SPPD will ensure the following facilities provided in the solar park are maintained for 25 years:

- (i) Road connectivity within the park;
- (ii) Water availability for running of power plants and demineralization plant;
- (iii) Internal drainage for proper discharge of flood water;
- (iv) Proper Housing facilities for basic manpower;
- (v) Proper parking and Warehousing etc.
- (vi) The SPPD shall coordinate with the State Government Authority and should first acquire mostly Government land and thereafter, if required, shall acquire private land.
- (vii) The land to be acquired shall be as far as possible even ground, free of shadow and requiring minimum levelling and grading work. In case some levelling and grading work is required, it may be left to the solar project developers. Only if there is surplus fund available, the SPPD may take this up but expenditure is to be kept to a minimum.
- (viii) The SPPD, shall coordinate with the State Government Authorities while finalising a plan for infrastructure development inside the park, to keep the expenditure minimum on fencing, development of internal roadways, arrangement of water, street lighting etc.



- (ix) The SPPD shall develop the transmission system inside the solar park through tenders directly or deposit work through STU or PGCIL or any other Government Agency. The cost for development of internal transmission should come out through a transparent mechanism as this is created on behalf of the solar project developers.
- (x) After identification of solar project developers, a committee will be formed with their representatives. This committee will advise SPPD on day to day management of the park as well as the transmission system. SPPD shall arrange connectivity and LTA on behalf of solar project developers and discharge all operational and commercial responsibilities for the solar project developers.
- (xi) The SPPD may prepare an estimate for the above O&M expenses, and formulate a recovery model to ensure the sustainability of the park, as per the financial model given in the Scheme for the solar park.
- (xii) **Transmission network and Pooling sub-station:**  
The SPPD shall coordinate with the State Government Authority while finalising the Transmission network and Pooling Sub-Station, so as to complete the work with optimum expenditure and also efficiently and avoid cost and time over-run.
- (xiii) **Transmission Network**
  - a) Internal transmission system will be considered as dedicated system of the generators' developed on their behalf by SPPD.
  - b) Forecasting and Scheduling will be done as per CERC Regulations and Indian Electricity Grid Code. The SPPD may take the function of forecasting if the solar project developers so desire.
  - c) Interconnection point will be at the ISTS system i.e. 400 kV substation where ISTS system is involved. The solar park where internal transmission system is connected to the STU system, its interconnection point will be at the STU system. All costs and losses up to that point will be on account of the solar project developers or SPPD depending upon the arrangement between the solar project developers and the SPPD.
  - d) As soon as first project in park gets commissioned, transmission charges will start getting paid from corpus of fund created by the SPPD, out of the collection from the solar project developers, for the entire capacity of line. If the line gets ready as per schedule and no project is commissioned, SPPD will have to pay charges as per applicable rules.
- (xiv) The SPPD may enter into an Implementation Agreement with the Solar Project Developers (SPDs) clearly indicating terms and conditions (suggested draft enclosed at **Annexure III**).

## **9. Returns and Monitoring**

The SPPD, entrusted with implementing the programme will get the land developed and provide necessary infrastructure like road connectivity, transmission infrastructure etc. An initial investment on getting Connectivity and LTA will also have to be made by the SPPD as per CERC Regulation. Significant investments will also be made in the operation & maintenance of the solar park, employing staff and other activities like marketing etc. The entire cost of development including cost involved in acquisition of land will form the total cost for the project for which an estimate will be prepared beforehand by the SPPD. Based on this estimate, the SPPD will formulate a recovery model to ensure the sustainability of the park. The SPPD will recover its investment through selling out the land to the prospective solar project developers or leasing out for 30 years or as per State Policy. The allotment of land would be as per the Scheme for solar park.

The SPPD may constitute a sub-committee which will keep all account and for Monitoring all the investments made initially for development of land, infrastructure like road connectivity, transmission etc. and subsequently for operation and maintenance of the entire solar park and for recovery from the solar project developers for 25 years. There has to be full transparency about costs and recovery as this is not to result in profit earning. SPPD can expect a modest return as per CERC norms on investment and so charges should cover only long term costs.

#### **10. Standard and qualities**

The solar project developers will set up solar power projects inside the solar park in accordance with the scheme being implemented by the SPPD. The standards with regard to metering and connectivity to the grid shall be as per the Regulations notified by CEA viz. (a) Technical Standard for Connectivity to the Grid (Amendment) Regulation, 2013, (b) Technical Standards for Connectivity of the Distributed Generation Resources and (c) Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 and Amendment Regulations, 2010.

As regards to the solar cells and modules to be used in the solar PV power plants, it must be as per specifications and testing requirement fixed by MNRE as per **Annexure-IV**.

#### **11. Rehabilitation and Resettlement**

Most of the solar parks are located in remote areas, and development of solar parks may relocate the people or affect their livelihood. For upliftment of people and community development, there is a need for Rehabilitation and Resettlement (R&R) of Project Affected People (PAP) with the objective that standards of living of the PAP improves or at least regain their previous standards of living.

The R&R Policy prepared in line with the National Rehabilitation and Resettlement Policy, 2007 as proposed by the Ministry is annexed as **Annexure-V**.

#### **12. Utilisation of MNRE Grant**

The expenditure on the development of a solar park will mainly constitute (a) expenditure on account of development of land and its infrastructure facilities and (b) Transmission network and Pooling Sub-station. The MNRE grant may be utilized in such a manner that higher proportion of funds are used for internal and external transmission as that is the most essential function.

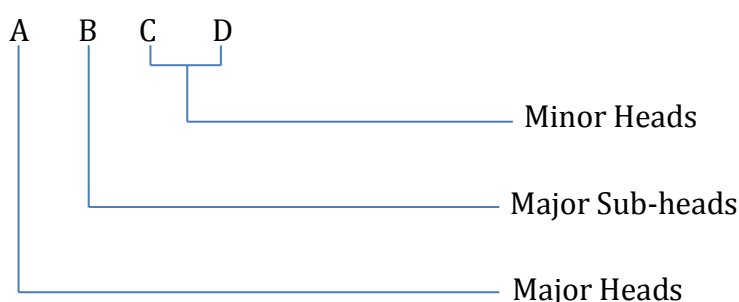
The SPPD, responsible for development of the solar park, shall endeavour to optimise the total expenditure to be made for the development of the solar park, such that the power generated by the prospective solar project develops is low and competitive.

### 13. Other important issues

i) As per the notification nos. L-1/(3)/2009-CERC and L-1/41/2010-CERC dated 15<sup>th</sup> May, 2015 of Central Electricity Regulatory Commission (CERC), Solar Power Park Developer (SPPD) has been included as an Applicant for Connectivity and Long Term Access in Inter-State Transmission System (ISTS). SPPD may make back to back arrangement with the solar project developers through a legally valid agreement that the solar project developers are the generators and must take responsibilities for Scheduling and Deviation Settlement Mechanism (DSM) charges as per CERC Regulations. This must be made clear at the time of allotment of land.

ii) The SPPD will allot land to the Solar Project Developers for setting up solar power projects through signing a Lease Deed clearly indicating terms and conditions (suggested draft enclosed at **Annexure VI**).

iii) The project cost for the solar park will be divided under “Heads” and accounts must be maintained accordingly. A four digit code head will be followed. The digits would denote the following:



<u>Major Head:</u>	Code for Capital Cost	-	1
	Code for Maintenance Cost	-	2
<u>Major Sub Head:</u>	Code for Cost of Internal Activities	-	1
	Code for Cost of External Activities	-	2

Minor Heads (first two digits C & D above):

- 01: Land
- 02: Transmission System
- 03: Pooling Station
- 04: Sub-station (400 kV or above)
- 05: Drainage
- 06: Building
- 07: Street light
- 08: Construction power
- 09: Road
- 10: Water Facility
- 11: Security
- 12: Salary of Employees of SPPD
- 13: Miscellaneous Expenses

Illustrations:

- 1101: Capital cost of Internal Park Land
- 1102: Capital cost of Internal Park Transmission System
- 1109: Capital cost of Internal Park Road Development
- 1110: Capital cost of Internal Park Water Facility Development
- 1105: Capital cost of Internal Park Drainage Development
- 1106: Capital cost of Internal Park Building Development
- 1107: Capital cost of Internal Park Street Light Development
- 1202: Capital cost of External Transmission System
- 1204: Capital cost of External Cost of Sub-station (400 kV or above)
- 2109: Maintenance Cost for Internal Road

iv) After the solar project developers move in, a committee of solar project developers will be formed. This committee will have a President, five Executive Members and a Secretary. This committee will advise SPPD on day to day maintenance.

v) The cost of developing the park will be met out of the five main category of fund sources:

- a) Central Grant of up to Rs. 20 Lakh/MW
- b) Loans from various Funding Institutions including multilateral and bi-lateral agencies
- c) Charges from solar project developers. There may be upfront and periodic charges.
- d) State Government and Other Grants
- e) Investments/Share capital by the park owners/developers.

These input funds will be maintained in account books in the above five categories.

vi) **Organizational structure and Man Power:** The Park may be run by a separate company (JV formed to act as SPPD) or an existing company doing other businesses.

Whatever the case may be, each park will have a separate management set up as follows:

Managing Director to head the company, which may comprise of the following:

- A) General Manager
- B) 2 to 3 officers to look after
  - a) Finance and Accounts
  - b) Internal Transmission
  - c) Municipal functions like roads, drainage, water etc.
- vii) Parks may also have their website (optional), print pamphlets, brochures, short films and letter head.

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No. 30/26/2014-15/NSM

भारत सरकार Government of India /

नवीन और नवीकरणीय ऊर्जा मंत्रालय / Ministry of New & Renewable Energy  
(NSM Coord. Group)

Block NO. 14, CGO Complex, Lodi Road,  
New Delhi-110 003, Dated: 12<sup>th</sup> December 2014

To

The Pay & Accounts Officer  
Ministry of New and Renewable Energy  
New Delhi.

**Subject: Implementation of a Scheme for Development of Solar Parks and Ultra Mega Solar Power Projects in the country commencing from 2014-15 and onwards (i.e. from the year 2014 – 15 to 2018 – 19).**

Sir,

I am directed to convey sanction of the President for implementation of a Scheme for setting up at least 25 solar parks each with a capacity of 500 MW and above with a target of over 20,000 MW of solar power installed capacity in a span of 5 years from 2014-15 to 2018-19; with an estimated Central Financial Assistance (CFA) of Rs.4050.00 crore (Rs. four thousand and fifty crore only), as per provisions of the Scheme enclosed at **Annexure A**.

## 2. Objective

The scheme aims to provide a huge impetus to solar energy generation by acting as a flagship demonstration facility to encourage project developers and investors, prompting additional projects of similar nature, triggering economies of scale for cost-reductions, technical improvements and achieving large scale reductions in GHG emissions. It would enable States to bring in significant investment from project developers, meet its Solar Renewable Purchase Obligation (RPO) mandate and provide employment opportunities to local population. The State will also reduce its carbon footprint by avoiding emissions equivalent to the solar park's installed capacity and generation. Further, the State will also avoid procuring expensive fossil fuels to power conventional power plants.

## 3. Implementation arrangements

3.1 **Applicability:** All the States and Union Territories are eligible for benefitting under the scheme.

3.2 **Implementation Agency:** The solar parks will be developed in collaboration with the State Governments and their agencies. Solar Energy Corporation of India (SECI) would be MNRE's Agency for handling this Scheme. The choice of implementing agency for developing and maintaining the park is left to the State Government. The States, applying under the scheme, will have to designate an agency for the development of solar park. Solar parks are envisaged to be developed in the 4 modes as mentioned in the Scheme. The agency identified out of the above stated 4 modes shall be the Implementing Agency. The choice of implementing agency for developing and maintaining the park is left to the State Government.

3.3. **Financial Model:** Implementing agency may raise funds as per financial model given in the Scheme.

4. Projects of any solar technology may come up in the Solar Park. The flexibility in choosing technology by the Project Developer will ensure adoption of cost effective and state-of-the-art technology which is commensurate with the dynamic requirements of the project.

**5. Power Purchase Agreement:**

The solar power developer(s) for project(s) within the solar park shall enter into Power Purchase Agreement(s) (PPAs) with Central Utilities/State Utilities/Discoms/Third Parties/Captive Users who are willing to buy power from the developer(s). The tariff for the sale of power through PPAs could be either Central Electricity Regulatory Commission (CERC)/State Electricity Regulatory Commission (SERC) regulated price or that determined through bidding process. The projects can come up under any Central/State/UT Government Schemes/Programmes or can be for third party sale, captive use or merchant sale.

**6. Fund for power evacuation**

The power evacuation arrangement will consist of two parts i.e. pooling stations and network within Park to collect power from each project and transmitting it to the transmission sub-station at the park boundary as the first part and the transmission sub-station along the transmission line upto Central Transmission Utility (CTU)/State Transmission Utility (STU) existing grid as the second part. The implementing agency would be responsible for the first part and the CTU/STU would be the responsible for the second part. For both these parts i.e. entire evacuation arrangement, MNRE grant may be used. Loan from multilateral/bilateral agencies may also be used as a component to fund the power evacuation infrastructure by the implementing agency and CTU/STU. If the capital expenditure for the evacuation network is high then a separate proposal may also be considered for funding from National Clean Energy Fund (NCEF), Green Corridor Programme or any other source.

**7. Central Financial Assistance (CFA):**

- CFA @ Rs.25.00 lakh (Rs. twenty five lakh) per park would be released by MNRE to SECI for DPR preparation of the Solar Park, conducting surveys, etc.
- Besides, CFA of up to Rs.20.00 lakh (Rs. twenty lakh) per MW or 30% of the project cost, including Grid-connectivity cost, whichever is lower, would be released to SECI on achieving the milestones given under para 7 of the Scheme. For release of requisite funds, the State Government will send a formal proposal to MNRE.
- The grant will be managed and released by SECI, on behalf of MNRE, for which SECI will be given a fund handling fee of 1% of the grant released.

8. If there is need for making any amendment to this Scheme for better implementation or any relaxation is required in the norms for Solar Parks, MNRE will be competent to make such amendments with the approval of Minister-in-charge, without increasing the financial requirements.

9. The funds for implementation of the above scheme would be met from Demand No.69-Ministry of New & Renewable Energy; Major Head:2810-New & Renewable Energy; 101-Grid Interactive & Distributed Renewable Power, 01-Grid Interactive Renewable Power, 04-Solar Power, 31-Grants-in-aid General during 2014-15 (Plan).

10. This sanction issues in exercise of powers delegated to this Ministry and with the approval of competent authority and concurrence of IFD *vide* their Dy. No. IFD/1763/2014-15 dated 12<sup>th</sup> December 2014.

Yours faithfully,

**(K.G. Suresh Kumar)**  
Under Secretary to the Govt. of India  
Phone: 011-24360707, Extn. 1912

**Encl: As above**

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**Scheme for development of Solar Parks and Ultra Mega Solar Power Projects**

**1. Background**

India, with its large population and rapidly growing economy, needs access to clean, cheap and reliable sources of energy. India lies in the high solar insolation region, endowed with huge solar energy potential with most of the country having about 300 days of sunshine per year with annual mean daily global solar radiation in the range of 4 - 6 kWh/m<sup>2</sup>/day. Solar power projects can be set up anywhere in the country, however the scattering of solar power projects leads to higher project cost per MW and higher transmission losses. Individual projects of smaller capacity incur significant expenses in site development, drawing separate transmission lines to nearest substation, procuring water and in creation of other necessary infrastructure. Also it takes a long time for project developers to acquire land, get change of land use and various permissions, etc. which delays the project.

The solar park is a concentrated zone of development of solar power generation projects and provides developers an area that is well characterized, with proper infrastructure and access to amenities and where the risk of the projects can be minimized. Solar Park will also facilitate developers by reducing the number of required approvals.

Starting with the 'Charanka Solar Park' in Gujarat, and closely followed by the 'Bhadla Solar Park' in Rajasthan, solar parks have quickly emerged as a powerful mechanism for the rapid development of solar power projects in the country. These parks have obtained their initial impetus from the Jawaharlal Nehru National Solar Mission (JNNSM), which provided the policy framework and roadmap for solar power development in the country.

Charanka Solar Park in Gujarat is the first-of-its-kind large scale solar park in India with contiguous developed land, transmission connectivity and provision of other amenities and infrastructure. A solar power developer can get fully developed land along with transmission and other facilities and can, therefore, set up a power project immediately. The Charanka Solar Park has a capacity of 590 MW, out of which 224 MW has already been commissioned by 20 developers.

The solar parks in Gujarat and Rajasthan not only enable the states to meet their policy targets for solar power and solar renewable purchase obligations, they also contribute towards the ambitious targets put in place by the JNNSM. In addition, the clean power generated by these solar projects play a role in reducing India's carbon footprint, promote high end technology investments, provide employment and empower local communities. MNRE, through this scheme will target development of similar solar park across India.

Large size projects have a potential to bring down the cost of Solar Power. Therefore, Ultra Mega Solar Power Projects having capacity of 500 MW or above have been planned in India. Large chunks of land are available in some States for solar park development. There are some developers who are keen to individually take up very large projects. Land has so far been identified in Gujarat, Madhya Pradesh, Telangana, Andhra Pradesh, Karnataka, Uttar Pradesh, Meghalaya, J&K (Leh and Kargil), Punjab and Rajasthan.

## 2. Proposal

MNRE through this scheme plans to set up 25 solar parks, each with a capacity of 500 MW and above; thereby targeting around 20000 MW of solar power installed capacity. These solar parks will be set up within in a span of 5 years commencing from 2014-15 and the solar projects may then come up as per demand and interest shown by developers.

At the State level, the solar parks will enable the States to bring in significant investment from project developers, meet its Solar Renewable Purchase Obligation (RPO) mandate and provide employment opportunities to local population. The State will also reduce its carbon footprint by avoiding emissions equivalent to the solar park's installed capacity and generation. Further, the State will also avoid procuring expensive fossil fuels to power conventional power plants.

The solar park will provide a huge impetus to solar energy generation by acting as a flagship demonstration facility to encourage project developers and investors, prompting additional projects of similar nature, triggering economies of scale for cost-reductions, technical improvements and achieving large scale reductions in GHG emissions. Some Ultra Mega Solar Power Projects may be set up in these Parks or the entire park may individually be an Ultra Mega Solar Power Project.

2.1 Applicability: All the States and Union Territories are eligible for benefits under the scheme.

2.2 Capacity: Park to be taken up for development should be of capacity of 500 MW and above. Smaller parks in Himalayan & other hilly States where contiguous land may be difficult to acquire in view of the difficult terrain will also be considered. Smaller parks may also be considered in States where there is acute shortage of non-agricultural lands.

## 3. Implementing agency

The solar parks will be developed in collaboration with the State Governments & their agencies. The MNRE Nodal Agency would be Solar Energy Corporation of India (SECI) on behalf of Government of India (GOI). SECI will handle funds to be made available under the scheme on behalf of GOI. SECI will administer the scheme under the direction from MNRE. The States applying under the scheme will have to designate an agency for the development of solar park. Solar parks are envisaged to be developed in the following four modes:-

(i) **Mode 1:** The State designated nodal agency undertakes the development & management of the solar park. This agency could be a State Government Public Sector Undertaking (PSU) or a Special Purpose Vehicle (SPV) of the State Government.

(ii) **Mode 2:** A Joint Venture Company is set up between State designated nodal agency and SECI for the development & management of solar park with 50% equity from SECI and 50% equity from the State Government Agency (State Government may also allow more than one agency provided total equity from State Government remains 50%).

(iii) **Mode 3:** The State designates SECI as the nodal agency and SECI undertakes the development and management of solar park on behalf of State Government on mutually agreed terms.

(iv) **Mode 4:** Private entrepreneurs promote solar parks without any equity participation from SECI, but may have equity participation from the State Government or its agencies.

The Implementing Agency or Special Purpose Vehicle (SPV), as identified under the provisions at (i) to (iv) above, shall undertake following activities to achieve the objective of speedy establishment and implementation of Solar Power Parks in the States:-

- i. Plan, finance, develop, execute, operate and maintain the Solar Power Park
- ii. Identify potential site and acquire/leasehold/possess land for Solar Power Park
- iii. Carry out site related studies/investigations
- iv. Obtain statutory & non statutory clearances and to make area development plan within Solar Power Park.
- v. Design a plan for sharing development cost between the developers.
- vi. Create necessary infrastructure like water, transmission lines, roads, drainage etc. to facilitate Solar Power Project developer for faster implementation of Solar Power Projects
- vii. Frame out transparent plot allotment policy and specify procedures pursuant to the relevant State policies and their amendments thereof.
- viii. Provide directives for technology-specific land requirements
- ix. Engage the services of national agencies/global experts/consultants to promote Solar Power Park and related activities.
- x. Facilitate the State Government to establish educational institutions/training facilities within Solar Power Park for development of manpower skill related to Solar Power
- xi. Include any other activity related to Solar Power Park, such as manufacturing as per the directives from MNRE and the State Government.
- xii. Conduct necessary evaluation of environmental and social impacts of utility scale solar deployment as per law and before allocating the land to prospective developers.

All infrastructural requirements outside the park such as connecting road, provision of water supply, construction electricity, etc. to make the park functional, will be the sole responsibility of the concerned State Government.

#### **4. Land acquisition / site selection**

Land for the setting up of the solar park will be identified by the State Government unless the implementing agency has its own land. It will be the responsibility of the State Government to make the land available. States are encouraged to identify sites receiving good solar radiation and sites which are closer to CTU (i.e. Power Grid Corporation of India Limited), preferably locations with spare transmission capacities and water availability. The park must have at least 5 Acres per MW towards installation of solar projects and will give opportunity for all technologies in a technologically agnostic fashion.

In order to provide for such a large tract of contiguous land with appropriate insolation levels, the state government may prioritize the use of government waste/non-agricultural land in order to speed up the acquisition process. It will be preferred if most of the required land is

Government owned and very little private land is to be acquired. The price of the land is to be kept as low as possible in order to attract the developers and, therefore, the site should be selected in such a manner so that inexpensive land can be made available. If land cannot be made available in one location, then land in few locations in close vicinity may be taken. Possibility of using cold and hot deserts, sides of highways can also be actively explored.

## **5. Facilities to be provided**

The solar park will provide specialized services to incentivize private developers to invest in solar energy in the park. These services while not being unique to the park, are provided in a central, one-stop-shop, single window format, making it easier for investors to implement their projects within the park in a significantly shorter period of time, as compared to projects outside the park which would have to obtain these services individually.

On the Charanka pattern, the implementing agency is tasked with acquiring the land for the Park, cleaning it, levelling it and allocating the plots for individual projects. Apart from this, the agency will also be entrusted with providing the following facilities to the solar project developers for the development of the solar park:-

- i. Land approved for installation of solar power plants and necessary permissions including change of land use etc.
- ii. Road connectivity to each plot of land
- iii. Water availability for construction as well as running of power plants and demineralization plant
- iv. Flood mitigation measures like flood discharge, internal drainage etc.
- v. Construction power
- vi. Telecommunication facilities
- vii. Transmission facility consisting pooling station (with 400/220, 220/66 KV switchyard and respective transformers) to allow connection of individual projects with pooling station through a network of underground cables or overhead lines.
- viii. Housing facility for basic manpower wherever possible
- ix. Parking, Warehouse etc.

The solar park will be a large contiguous stretch of land with high insolation levels, saving the private developer from making the effort of identifying the ideal site for the plant. In addition, the site within the park is already levelled and developed reducing these costs for the project developer.

In addition, the Park will provide road access (both approach roads and smaller access roads to individual plots), water (via a dedicated reservoir located within the premises), boundary fence and security, each of which would have entailed additional costs for the developer outside the park.

Each of these specialized services offer significant benefits to the developers but come at a premium. Land plots within the solar park are more expensive than outside. But this premium is easily justifiable by these services, which are bundled into the land cost. However, the most important benefit from the park for the private developer is the significant time saved. The centralized, single window nature of the services within the park reduces the time between

project conceptualization and operations, translating into economic and real monetary gains for the private developers and the State.

Centralized Weather Monitoring Station would be set-up by the implementing agency so as to provide weather data to the projects in the solar parks.

## **6. Financial model**

The implementing agency, entrusted with implementing the programme will get the land developed and provide necessary infrastructure like road connectivity, transmission infrastructure etc. Significant investments will also be made in the operation & maintenance of the solar park, employing staff and other activities like marketing etc. The entire cost of development including cost involved in acquisition of land will form the total cost for the project for which an estimate will be prepared beforehand by the nodal agency. Based on this estimate the implementing agency will formulate a recovery model to ensure the sustainability of the park. The implementing agency may raise the funds as follows:-

- The implementing agency may give wide publicity and have a process of registration for prospective developers to register so that the demand for the solar park can be assessed.
- The implementation agency may sell/lease out the plots to prospective project developers. Lease period shall be of 30 years or as per State land policy. The Allotment Price per metre square (inclusive of all applicable taxes, duties, cess etc.) payable by the plot applicant for the applications must be specified in a transparent manner. The allotment price may be reviewed annually and an annual increment may also be specified. The maximum stretch of plot to be allotted will be decided as per the benchmarks finalized by the implementing agency.
- A one-time registration fee (per project or per MW) may be collected by inviting applications from the prospective buyers when the scheme is finalized, land identified and marked. An advance may be collected from the prospective buyers when 50% of the land is acquired. This advance will be 10% of the sale price or lease amount. Another instalment of 25% of the price of land or lease amount may be taken when full land is acquired. Further instalments of 10% each time may be collected while plot are being developed. Final 15% of the price of land or lease amount may be collected at the time of allotment of the plot to the buyer.
- The implementing agency may put in some of its own equity and can raise loans, depending on the availability of funds and requirement. The subsidy of MNRE under the scheme would bring down the cost of the project to that extent. The SPV will also create a small corpus for working capital to ensure upkeep and maintenance in the future, which may be supplemented with some annual charges. The implementing agency may change the above plan if it is in the interest of the solar park.

## 7. MNRE support

The State Government will first nominate the implementing agency for the solar park and also identify the land for the proposed solar park. It will then send a proposal to MNRE for approval along with (or later) the name of the implementing agency. The implementing agency may be sanctioned a grant of up to Rs. 25 Lakhs for preparing Detailed Project Report (DPR) of the Solar Park, conducting surveys etc. The DPR must be prepared in 60 days.

Thereafter, application may be made by the implementing agency to SECI for the grant of up to Rs. 20 lakhs/MW or 30% of the project cost including Grid-connectivity cost, whichever is lower. The approved grant will be released by SECI as per the following milestones:

Sl. No.	Milestone	% of subsidy disbursed
1	Date of issue of administrative approval	5%
2	Land acquisition (not less than 50% land acquired)	20%
3	Financial Closure	20%
4	Construction of Pooling Substation, Land Development and other Common facilities as per DPR	25%
5	Construction of transmission line and Grid Connectivity	20%
6	Final instalment on completion	10%
	Total	100%

The grant will be managed and released by SECI on behalf of MNRE for which SECI will be given a fund handling fee of 1%. If the park is developed in phases, grant will also be phased out in proportion to expenditure in each phase.

Based on above, the estimated cost has been worked as under:-

	(Rs. in Crores)
(i) Cost of 20,000 MW @ Rs.20 Lakh/MW	4000.00
(ii) 1% fund handling fee for SECI on above amount	40.00
(iii) Cost of DPR preparation etc. for 25 Solar Parks @ Rs. 25 Lakh each park	6.25
(iv) Training, consultancy & other related Expenditure (to be incurred by MNRE, SECI, implementing agency)	3.75
<b>Total</b>	<b>4050.00</b>

## 8. Transmission and evacuation of power from solar park

Interconnection of each plot with pooling stations through 66 KV /other suitable voltage underground or overhead cable will be the responsibility of the solar project developer.

The designated nodal agency will set up the pooling stations (with 400/220, 220/66 KV or as may be suitable switchyard and respective transformers) inside the solar park and will also draw transmission to transmit power to 220 KV/400 KV sub-station.

The responsibility of setting up a sub-station nearby the solar park to take power from one or more pooling stations will lie with the Central Transmission Utility (CTU) or the State Transmission Utility (STU), after following necessary technical and commercial procedures as stipulated in the various regulations notified by the Central/State Commission.

If the State Government is willing to buy over 50% of the power generated in the solar park, preference will be given to STU, which will ensure setting up of sub-station and development of necessary infrastructure for transmission of power from substation to load centres.

The designated implementing agency will intimate POWERGRID and CEA at least 6 months before so that the planning and execution can be carried out in time.

If the state is not willing to buy at least 50% of the power generated in the solar park, then CTU may be entrusted with the responsibility of setting up 400 KV or bigger sub-station right next to the solar park and its connectivity with the CTU. For setting up of this transmission & evacuation infrastructure, Power Grid may prepare a separate project to be funded from NCEF / external funds / Green Corridor project, if the cost is very high. The system would be planned in such a manner so that there is no wheeling charge applicable on solar power in accordance with the CERC Regulation or reduce the wheeling charges to affordable level.

To build this infrastructure using the highest possible standards, the whole solar power evacuation network scheme may be designed using latest technologies like SCADA, GIS, Bay controller, online monitoring equipment for dissolved gas analysis, OPGW, PLCC etc.

#### **9. Power Sale Arrangement:**

Acceptance for development of solar park under the Scheme does not guarantee power purchase agreement (PPA) or tariff for the power to be produced. The project developers need to have their own arrangement for a PPA or get selected in any Government of India or State Government Scheme. The developer will be free to set up projects under any scheme or for third party sale.

#### **10. Loan**

MNRE will also put in efforts to tie up with multilateral/ bilateral funding agencies to finance the entire or a part of the cost of the solar parks. The MNRE grant will be treated as the implementing agencies' contribution to get this loan. The loan tenure and the moratorium period will be set in accordance with the banks' terms and conditions while the annual interest will be set in accordance with banks' LIBOR-based lending facility.

#### **11. Fund for power evacuation**

The connectivity with grid i.e. 220/400 kv substation and transmission line to connect with CTU / STU's existing network is a very important component. For power evacuation network, MNRE grant may be used. Loan from multilateral/bilateral agencies may also be used to the power evacuation network. If the expenditure is high then a separate proposal may also be considered for funding from National Clean Energy Fund (NCEF), Green Corridor Programme or any other source.

#### **12. Equity Contribution**

The implementing agency whether single company or JV may not require a high equity infusion as most of the cost will be covered through as MNRE grant and loan. Most of the

land is expected to be Government land. The total expenses on development of park will be worked out by the implementing agency in a transparent manner.

The expenses after taking into account MNRE subsidy, may be recovered through sale or lease charges of land from the developers.

The implementing agency can generate a reasonable amount of surplus which can be profit for the agency or its promoters which may preferably be converted in to equity of the JV partners or the implementing agency so that the implementing agency gets financial strength for long term sustenance.

### **13. Ultra Mega Solar Power Projects**

Ultra Mega Solar Power project is a single power project with capacity of over 500 MW. These projects may be set up in some of these Solar Parks. The projects may be bid out after developing the park or simultaneously with park developments. In some cases, the full park may be one Ultra Mega Project.

In such cases the JV set up to develop the Ultra Mega Solar Power Project may become the implementing agency also.

### **14. Hybrid Projects**

Some other forms of RE like wind, biomass etc. may also be allowed to come up in the park wherever feasible. Projects with CSP technology may in these parks have upto 15% of auxiliary fuel of gas or biomass.

### **15. Timelines**

Scheduled timelines for setting up of Solar Power Park is as under:

Sl. No.	Milestone	Timelines
1	Date of issue of administrative approval	Zero Date
2	Land acquisition and Financial Closure	6 months from zero date
3	Construction of Pooling Substation, Land Development and other Common facilities as per DPR	15 months from zero date
4	Transmission line and Grid Connectivity	18 months from zero date
5	Final instalment on completion	18 months from zero date

### **16. Manufacturing**

Manufacturing of solar products and components may also be allowed in the parks.

### **17. Interpretation**

In case of any ambiguity in interpretation of any of the provisions of the Scheme, the decision of the Minister-in-Charge, MNRE shall be final.



## **18. Arbitration**

Any dispute that arises out of any provision of the scheme shall be settled by an Arbitrator appointed by this Ministry for the purpose and his decision shall be final and binding.

## **19. Power to remove difficulties**

Given that the scheme is new, if there is need for any amendment to this Scheme for better implementation or any relaxation is required in the norms for Solar Parks due to operational problems, MNRE will be competent to make such amendments with the approval of Minister-in-charge.

## **20. State Government's obligation to purchase power:**

The State Government in which the solar park is developed must agree to buy at least 20% of the power produced in the park through its Discom. The States which agree to buy higher percentage of power will be given preference. In such cases, where the State refuses to buy at least 50% power, the park should preferably be connected with CTU system. If STU system has to be used to evacuate power to other states, the STU/State Government concerned will agree to waive off the wheeling charges or reduce the wheeling charges to affordable level.

## **21. Monitoring progress of Scheme:**

MNRE will appoint a Nodal Officer in the Ministry to help, guide, handhold and closely monitor progress of the scheme to ensure that timeliness as envisaged for completion of various activities are adhered to for development of solar parks. MNRE will extend all possible help to ensure that the investors complete their task on time.

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**Format of Proposal for Solar Park(s)**

1. Name of the State:
2. Name of the Park:
3. Capacity of Park (MW):
4. Location:
5. Land area available:
  - i. Whether 50% of land area is acquired - Yes/No
  - ii. a) Government Land:
    - b) Private Land, if any:
6. Name of the Implementing Agency, if not SECI:
7. Water availability:
8. Road connectivity:
9. Contact persons from State Government:
  - i. Name & Designation:
  - ii. Telephone/Mobile No.:
  - iii. Postal Address:
  - iv. Email ID:
10. Enclosures:
  - i. Letter from State Government allowing setting up of Park.
  - ii. Site map.
  - iii. Satellite image, if available.
  - iv. Location of site on map of State.
  - v. Other relevant documents.

## Additional Information relating to Solar Park

### 1. Availability of Transmission:

#### a) Spare capacity

- i. At 400 kV \_\_\_\_\_(MW), Distance from Park\_\_\_\_\_ (Kms)
- ii. At 220 kV \_\_\_\_\_(MW), Distance from Park\_\_\_\_\_ (Kms)
- iii. At 132 kV \_\_\_\_\_(MW), Distance from Park\_\_\_\_\_ (Kms)
- iv. At 66 kV \_\_\_\_\_(MW), Distance from Park\_\_\_\_\_ (Kms)
- v. At 33 kV \_\_\_\_\_(MW), Distance from Park\_\_\_\_\_ (Kms)

### 2. Implementing Agency:

- a. Whether any MoU signed?\_\_\_\_\_ (give details)
- b. Whether JV formed? \_\_\_\_\_(give details)

### 3. Date by which land can be handed over to implementing agency \_\_\_\_\_

### 4. Current Solar Installed capacity

- a. Grid Connected –
- b. Off-grid –

**Implementation Agreement between Solar Power Park Developer (SPPD) and Solar Project Developer (SPD)**

**(This deed format is for guidance purpose)**

This Implementation Agreement is made on the .....[Insert date] day of .....[Insert month] of ..... [Insert year] at ..... [Insert place].

Between

..... [Insert name of the Solar Power Project Developer], a company incorporated under the Companies Act \_\_\_\_\_, having its registered office at ..... [Insert address of the registered office of Solar Power Park Developer] (hereinafter referred to as “**SPPD**”, which expression shall, unless repugnant to the context or meaning thereof, be deemed to include its successors and permitted assigns) as a Party of the first part;

And

..... [Insert name of the Solar Project Developer], a company incorporated under the Companies Act 1956, having its registered office at ..... [Insert address of the registered office of Solar Power Developer] (hereinafter referred to as “**SPD**”, which expression shall, unless repugnant to the context or meaning thereof, be deemed to include its successors and permitted assigns) as a Party of the second part;

The SPPD and SPD are individually referred to as ‘Party’ and collectively referred to as ‘Parties’.

Whereas:

- a. (Name of the SPPD) was incorporated in the year 2014 under the Companies Act, \_\_\_\_\_ as a Joint Venture Company between \_\_\_\_\_ and \_\_\_\_\_ with an objective to plan, develop and operate solar parks in the State of \_\_\_\_\_ under MNRE Scheme for Development of Solar Parks and Ultra Mega Solar Power Projects in the country, notified on 12<sup>th</sup> December 2014.
- b. Pursuant to notification of CERC (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters) (Fifth Amendment) Regulations, 2015 on 15<sup>th</sup> May, 2015, MNRE authorized (Name of the SPPD) as the Solar Power Park Developer (SPPD) for Connectivity and Long-term Access in inter-State Transmission system and also to carry out other associated works for facilitation and implementation of the (Name of the Solar Park) Ultra Mega Solar Park (Capacity in MW) to be developed at (Name of the Villages & Mandal) of (Name of the District) of (Name of the State). As part of its functions, (Name of the SPPD) facilitates setting up of power projects by public/private developers in the State of \_\_\_\_\_.
- c. (Name of the SPPD), shall provide facilities as per the Scheme viz. Land and infrastructure like water, transmission lines, roads etc.

- d. Consequent upon selection of SPDs through the bidding process conducted by (Name of the SPPD) through “Grid Connected Solar Photo Voltaic Projects under (Name of the Scheme) for (Name of the Solar Park) (Capacity in MW) in \_\_\_\_\_”, the land in possession of (Name of the SPPD) will be allotted to the SPDs. The land allotted to the SPD is hereinafter referred to as the “Land”.
- e. (Name of the SPPD), after considering the expenditure for Development of Infrastructure, will collect one time Solar Power Park Development Expenses towards capital cost for Land development and other Infrastructure such as Internal Transmission Lines, Roads, Water Supply, Drainage System, Boundary fence, Security etc. in the Solar Park from the SPDs, including all applicable taxes, duties, cess and other Government levies.
- f. (Name of the SPPD) will additionally charge Annual O&M Charges / Annual Lease Rent including all applicable taxes, duties, cess and other Government levies from SPDs.

**Now therefore, in consideration of the premises and mutual agreements, covenants and conditions set forth herein, it is hereby agreed by and between the Parties as follows:**

## **1. Article 1: Definitions and Interpretations**

### **1.1 Definitions**

In this Agreement, the following words and expressions shall have the respective meanings set forth below, unless the context otherwise requires.

- a) ***“Act”*** or ***“Electricity Act”*** shall mean the Electricity Act, 2003 and include any modifications, amendments and substitution from time to time;
- b) ***“Agreement”*** shall mean the Implementation Agreement made between ***“SPPD”*** and the ***“SPD”***
- c) ***“Company”*** shall mean a body corporate incorporated in India under the Companies Act, 1956 or the Companies Act, 2013, as applicable, which expression shall unless be repugnant to the context or meaning hereof be deemed to mean & include its successors in business and assigns.
- d) ***“CTU”*** or ***“Central Transmission Utility”*** shall mean the Central Transmission Utility as defined under sub-section 10 of Section 2 of the Act i.e. Power Grid Corporation of India Limited (PGCIL).
- e) ***“Demised Premises”*** shall mean all that piece of leased land in \_\_\_\_\_ at \_\_\_\_\_ Village of \_\_\_\_\_ District of \_\_\_\_\_ written hereunder and delineated on the plan hereto annexed in Annexure “\_\_\_\_\_”, together with all rights, liberties, privileges, easement advantages and appurtenances, whatsoever thereto belonging or in any manner appurtenant thereto or usually held or occupied therewith or reputed to belong or be appurtenant thereto except and reserving unto SPPD all mines and minerals in and under the premises.
- f) ***“Inter-connection point or Delivery point”*** shall mean the point at 220 kV or above where the solar power from one or more pooling station is injected into the CTU/ STU

transmission system. All costs and losses up to that point will be on account of the Solar Power Developers.

- g) **“Metering point”** shall mean the point at 220 kV side of 400/220 kV grid Sub-Station of CTU/ STU. The metering will be done at the interconnection point along with subsidiary meters at the pooling station(s) to determine the generation by each solar project. The Metering and connected equipment shall be provided by SPDs at their cost. SPD shall follow and be bound by the Central Electricity Authority (Installation and Operation of Meters) regulations, 2006 and Amendment Regulations, 2010 and Technical Standard for Connectivity to the Grid (Amendment) Regulation, 2013, the Grid Code, as amended from time to time. The total cost metering and connected equipment would be shared amongst the SPDs.
- h) **“Party” or “Parties”** shall refer to **SPPD** and the **SPD** individually or collectively.
- i) **“Pooling Substation”** shall mean an intermediary Substation within the Solar Park where each Solar PV Project interconnect with pooling substation through 33 kV/ other suitable voltage underground or overhead cable, for further connectivity through a common transmission line to STU / CTU System for evacuation of power.
- j) **“Solar Park”** shall mean concentrated zone of development of solar power generation projects and provides an area that is well characterized with proper infrastructure including power evacuation and access to amenities. Solar Park will also facilitate solar project developers by reducing the number of required approvals;
- k) **“SPD” or “Solar Project Developer”** shall mean Bidding Company or a Bidding Consortium that got selected through the bidding process under Central / State Government Scheme.
- l) **“STU” or “State Transmission Utility”** or shall mean the Board or the Government Company notified by the respective State Government under Sub-Section 1 of Section 39 of the Act.

## 1.2 Interpretations

In this Agreement, unless the context otherwise requires:

1.2.1 Any reference to a statutory provision shall include such provisions as is from time to time modified or re-enacted or consolidated so far such modification or re-enactment or consolidation applies or is capable of applying to any transactions entered into here under.

1.2.2 This Agreement itself or any other agreement or document shall be construed as a reference to this or to such other agreement or document as it may have been, or may from time to time be, amended, varied, novated, replaced or supplemented;

1.2.3 Different parts of this Agreement are to be taken as mutually explanatory and supplementary to each other and if there is any inconsistency between or among the parts of this Agreement, they shall be interpreted in a harmonious manner so as to give effect to each part;

1.2.4 The words “hereof” or “herein”, if and when used in this Agreement shall mean a reference to this Agreement;

The terms used in this Agreement, unless as defined above or repugnant to the context, shall have the same meaning as assigned to them by the Electricity Act, 2003 and the rules or regulations framed there under, including those issued / framed by the Appropriate Commission, as amended or re-enacted from time to time.

## **2. Article 2: Term of the Agreement**

### **2.1 Effective Date**

This Agreement shall come into effect from the date of its execution by both the Parties and such date shall be referred to as the Effective Date.

### **2.2 Term of Agreement**

This Implementation Agreement subject to Article 2.3 and unless terminated earlier by either Party in accordance with the terms and conditions set forth herein, shall remain in force (“the Term”) from the Effective Date up to life of the Project (Expiry Date).

### **2.3 Renewal of Agreement**

This Agreement may be extended for a further period on mutually agreed terms and conditions at least one hundred eighty (180) days prior to the Expiry Date.

## **3. Article 3: Obligations of (Name of SPPD)**

### **3.1 Approvals**

(Name of the SPPD) shall obtain all necessary statutory and non-statutory clearances required for developing the Solar Park.

### **3.2 Declaration by (Name of the SPPD)**

- a) (Name of the SPPD) declares that there is no mortgage, charge and/or claim over the Demised Premises and the Demised Premises is free from all encumbrances.
- b) (Name of the SPPD), in its best knowledge, declares that it has got full rights and absolute authority to lease the Demised Premises unto the SPD for the lease duration and to execute this Agreement in favor of the SPD.
- c) (Name of the SPPD) has not been restrained either under income Tax Act or any other statute for the time being in force from dealing with or disposing of the Demised Premises or any part thereof in any manner.

### **3.3 Infrastructure facilities by (Name of the SPPD)**

(Name of the SPPD) would provide infrastructure facilities to the SPD so as to match the Commissioning schedule of the solar projects to be set up by SPD.

#### **3.3.1 Internal Evacuation System**

- a) (Name of the SPPD) will set up the pooling stations (with 220/33 kV, 220/66 kV or as may be suitable switchyard and respective transformers) inside the solar park. SPD will interconnect its solar project to \_\_\_\_kV bus of \_\_/\_\_ kV pooling sub-station through 33 kV/ other suitable voltage underground or overhead cables at its own cost.

- b) (Capacity in MW) Solar Park is divided into (number of blocks) of (Capacity in MW) for the purpose of Power evacuation.
- c) For each (Capacity in MW) Solar Power block, one pooling substation of \_\_\_/\_\_\_ kV is proposed in which \_\_\_ x \_\_\_ MVA step-up transformers will be installed. (Capacity in MW) block is further subdivided into \_\_\_\_\_MW sub blocks. Thus, these \_\_\_ x \_\_\_ MW sub blocks shall be connected to pooling sub-station through redundant \_\_\_\_\_ kV cables (two sets).
- d) The pooling sub-stations are connected through \_\_\_\_\_ kV \_\_\_\_\_ line to the main \_\_\_/\_\_\_kV Sub Station through a dedicated corridor.

### **3.3.2 Main Road and Street Lighting**

(Name of the SPPD) will lay and maintain the main roads so as to provide access to all the plots along with street lighting in the Solar Park. Internal access roads within the plot shall have to be laid by the SPD at its own cost.

### **3.3.3 Water Supply**

- a) (Name of the SPPD) will arrange and provide the necessary water supply for operations and maintenance of the Solar Power Projects consequent upon their commissioning.
- b) It is proposed to supply \_\_\_KL/MW/Month so as to complete one cleaning cycle every fortnight. However the supply of water is not restricted.
- c) SPD shall be charged for water supplied by SPPD as per clause 6.3 of the agreement.
- d) (Name of the SPPD) will provide water at a single source through a meter for each plot. SPD shall collect the water supplied by (Name of the SPPD) in a ground level water tank and water from this tank shall be used by SPD by making its own arrangements as required.
- e) However, (Name of the SPPD) shall not provide water supply during the construction phase. The SPD is advised to make its own arrangements for obtaining water during construction. SPD has to obtain necessary approvals/permissions from local authorities to dig/bore wells or to get water from nearest reservoir by tankers and (Name of the SPPD) will extend necessary support in obtaining such approvals/permissions, if required.

### **3.3.4 Drainage System**

(Name of the SPPD) will lay and maintain the main drains along the main road to which SPDs may connect their internal project drains.

Major streams are suggested to be channelized by developers as tentatively indicated in the plot plan & obtain necessary approvals from (Name of the SPPD) for maintaining continuity in existing streams at the boundary of individual plots.

### **3.3.5 Monitoring**

(Name of the SPPD) will install necessary equipment to monitor the solar irradiation and other necessary weather data.



### **3.3.6 Power Supply During Construction**

In respect of power supply required during construction period, SPD has to apply to local power distribution authorities in the prescribed application form at its own cost and the SPD shall also be responsible for all including timely payments etc. However, (Name of the SPPD) will extend necessary support in obtaining the power supply connection.

## **4. Article 4: Obligations of the Solar Project Developer**

### **4.1 Observance of Law**

The SPD shall undertake to establish, construct and operate the Solar Power Project in accordance with applicable Law, the Grid Code, the terms and conditions of this Agreement and Prudent Utility Practices.

### **4.2 Permissions and Clearances**

The SPD shall obtain and renew, if necessary, at its own cost and risk, all necessary permissions, approvals, licenses and permits for the Solar Power Project and shall pay all license and other levies, cess and taxes in respect of the Demised Premises by reason of their being used the same for the purpose aforesaid and to observe and perform all local, police, municipal laws and/or policies and rules and regulations in connection with such use. (Name of the SPPD) will sign all such documents and make all such applications as may be reasonably required of (Name of the SPPD) at the cost of the SPD for enabling the SPD to obtain all necessary permissions, licenses and/or approvals for constructing, repairing, running and/or maintaining the Plant.

### **4.3 Use of Demised Premises for Other Purposes**

- a) The SPD shall use the Demised Premises and every part thereof only for the purpose of constructing, maintaining and running the Solar Power Project and matters connected therewith and shall not use the Demised Premises or any part thereof for any other purpose.
- b) The SPD shall be the owner of the plant and buildings constructed by it on the Demised Premises and the equipment, machinery, furniture, fixtures and/or all moveable assets installed therein.
- c) The SPD can construct the Solar Power Project including the buildings, structures required for the Solar Power Project as per their own plans in the demised premises. However the SPD shall submit the plans/drawings to (Name of the SPPD) for its scrutiny and approval to ensure that buildings & structures shall not create any obstruction to the neighboring plots.
- d) The SPD shall not build, construct, demolish or erect or make any alterations and/or additions to the Plant and/or any building or any structure on the Demised Premises or any variation or user of any portion thereof unless and until specifications, plans, elevations, sections and details thereof are submitted by the SPD to (Name of the SPPD) for its scrutiny and approval to ensure that the above alterations/additions to buildings/structures will not create problems to Solar power Projects in the neighboring plots.
- e) The SPD shall not make any excavation upon any part of the Demised Premises or remove any stone, sand gravel, clay, earth or material there from except the construction of the Solar Power Plant.

#### **4.4 Mortgaging**

- a) The SPD shall not transfer, assign, let, underlets, sublet, license, mortgage, charge, encumber or part with the possession of the Demised Premises or any part thereof or any interest therein without prior permission of (Name of the SPPD).
- b) For the purpose of constructing the Plant on the Demised Premises, if the SPD intends to obtain loan from a bank or other financial institutions by mortgaging their lease hold interest in the Demised Premises in favor of such bank or institution, prior permission of (Name of the SPPD) shall be obtained. However such mortgage shall not affect the rights and obligations of (Name of the SPPD) under this Agreement.

#### **4.5 Right of Access to (Name of the SPPD)/other authorities**

(Name of the SPPD) and/or the authorized persons of (Name of the SPPD) shall have the right to access into Demised Premises, with prior intimation to the **SPD**, for the purpose of discharging its obligations including inspection to ensure compliance of terms and conditions of this agreement by **SPD**.

#### **4.6 Right of (Name of the SPD) to Audit**

The **SPD** shall permit conducting of an audit if deemed required to confirm whether the **SPD** has been in due compliance of all the applicable Law, the Grid Code, the terms and conditions of this Agreement and Prudent Utility Practices. The **SPD** shall also ensure that answer to any query raised in this audit and/or any document/information required by the auditor is provided within reasonable time.

#### **4.7 Metering**

**Metering point** shall be the point at 220 kV side of 400/220 kV grid Sub-Station of CTU/ STU. The metering will be done at the interconnection point along with subsidiary meters at the pooling station(s) to determine the generation by each solar project. The Metering and connected equipment shall be provided by **SPDs** at their cost. **SPD** shall follow and be bound by the Central Electricity Authority (Installation and Operation of Meters) regulations, 2006 and Amendment Regulations, 2010 and Technical Standard for Connectivity to the Grid (Amendment) Regulation, 2013, the Grid Code, as amended from time to time.

#### **4.8 Insurance**

During the term of the Agreement, the **SPD** shall ensure that the Solar Power Plant including all the buildings, structures erected on the Demised Premises are insured at its own cost against any loss or damage.

#### **4.9 Fire Safety**

The SPD shall establish and maintain its own fire fighting and safety equipment to avoid/minimize the loss/damage of property/equipment in case of fire. (Name of the SPPD) shall not be held responsible for any loss/damage of property/equipment of SPD due to fire accidents.

### **5.0 Article 5: Transmission and Evacuation of power from Solar Park**

#### **5.1 Pooling stations**

The (Name of the SPPD) will set up the pooling stations (with 400/220, 220/66 KV or as may be suitable switchyard and respective transformers) inside the solar park and will also draw transmission line to transmit power to 220 KV/400 KV sub-station.

### **5.2 Inter-connection of solar projects with pooling stations**

SPD will interconnect its solar project to \_\_\_\_\_kV bus of \_\_\_/\_\_\_ kV pooling sub-station through 33 kV/ other suitable voltage underground or overhead cables at its own cost. Interconnection of solar power projects with pooling stations will be the responsibility of the solar project developer (SPD).

### **5.3 Inter-connection point or Delivery point**

The responsibility of setting up a sub-station nearby the solar park and to take power from one or more pooling stations will lie with the central transmission utility (CTU) or the State transmission utility (STU), after following necessary technical and commercial procedures as stipulated in the various regulations notified by the Central/State Commission. **“Inter-connection point or Delivery point”** shall mean the point at 220 kV or above where the solar power from one or more pooling station is injected into the CTU/ STU transmission system. All costs and losses up to that point will be on account of the Solar Project Developers.

## **6.0 Article 6: Payment Terms**

### **6.1 One time Solar Power Park Development Expenses:**

One time Solar Power Park Development Expenses, towards capital cost for land development and for providing Common Infrastructure such as Internal Transmission Lines, Roads, Water Supply, Drainage System, Boundary fence etc of Rs. \_\_\_\_\_/- (Rupees \_\_\_\_\_ only) calculated at the rate of Rs. \_\_\_\_\_/- (Rupees in words) per MW shall be paid by the SPD to SPPD on entering into this agreement. Service tax and all other taxes, duties, cess and other Government levies applicable on such transaction shall be reimbursed to the SPPD by the SPD within 7 days from the date of issue of bill by SPPD.

### **6.2 Annual O&M Charges**

Annual O&M charges of Rs. ----- (Rupees -----Only) calculated at the rate of Rs. \_\_\_\_\_/- (Rupees in words) per MW per annum in the first year which is escalated annually at the rate of \_\_\_% shall be payable by SPD on or before 30<sup>th</sup> April at the beginning of each financial year during the agreement period. First year annual O&M charges shall be payable by SPD on prorata basis within 30 days from the COD. Service tax and all other taxes, duties, cess and other Government levies applicable on such transaction shall be reimbursed to the SPPD by the SPD within 7 days from the date of issue of bill by SPPD.

### **6.3 Charges for Water Supply**

Water consumed by SPD shall be metered and charged at the rate of Rs. \_\_\_\_/- per Kilo Litre, which is fixed for the agreement period. Charges for water supply shall be paid by SPD every month within 15 days from the date of issue bill by SPPD.

#### **6.4 Transmission Charges and Scheduling Charges**

- a) “Inter-connection point or Delivery point” shall mean the point at 220 kV side of 400/220 kV Sub-Station of CTU or STU as the case may be. All costs and losses up to that point will be to the account of the Solar Project Developers and will be shared amongst the SPDs in proportion to the capacity installed.
- b) SPDs will interconnect its solar project to \_\_\_\_\_kV bus of \_\_\_/\_\_\_ kV pooling sub-station through 33 kV/ other suitable voltage underground or overhead cables at its own cost. Interconnection of solar power projects with pooling stations will be the responsibility of the solar project developer (SPD). All costs and losses up to \_\_\_\_\_kV bus of \_\_\_/\_\_\_ kV pooling sub-station will be to the account of the SPD and will be borne by the SPD.
- c) As per the notification nos. L-1/(3)/2009-CERC and L-1/41/2010-CERC dated 15<sup>th</sup> May, 2015 of Central Electricity Regulatory Commission (CERC), Solar Power Park Developer (SPPD) has been authorized as an Applicant for Connectivity and Long Term Open Access in Inter-State Transmission System (ISTS) by Ministry of New and Renewable Energy. The SPDs are responsible for Scheduling and Deviation Settlement Mechanism (DSM) charges as per CERC Regulations and all liabilities related to LTA and Connectivity.
- d) Forecasting and scheduling shall be done by SPD as per Indian Electricity Grid Code (IEGC) as amended from time to time. The SPPD may take up the function of forecasting and scheduling if the Solar Project Developers so desire on chargeable basis.
- e) (Name of the SPPD) will forward all the bills received from concerned authorities towards above charges mentioned from 6.5 (a) to 6.5 (c) to the SPD from time to time and the SPD shall pay such bills within 7 days from the date of issue of bill by SPPD.

#### **6.5 Taxes and Duties**

- a) (Name of the SPPD) shall not be liable for payment of any taxes, duties, levies, cess whatsoever for discharging of any obligation by (Name of the SPPD).
- b) The SPD shall bear and promptly pay all statutory taxes, duties, levies and cess, assessed/ levied on the SPD as per the Law in relation to the execution of this Agreement.

#### **7.0 Article 7: Amendment**

This agreement may be amended or supplemented by a written agreement based on mutual discussions and consent between the Parties.

**IN WITNESS WHEREOF the Parties hereto have executed this Implementation and Support Agreement as on the date written first herein above by the undersigned.**

SIGNED AND DELIVERED  
By the “**SPD**”

Name:  
Authorized Signatory

Signed

In the presence of:

- 1.
- 2.

SIGNED AND DELIVERED  
By the “**(Name of the SPPD)**”

Name:  
Authorized Signatory



one of the NABL Accredited Test Centers in India. In case of module types like Thin Film and CPV / equipment for which such Test facilities may not exist in India at present, test certificates from reputed ILAC Member Labs abroad will be acceptable.

## **5. Warranty**

PV modules used in grid solar power plants must be warranted for output wattage, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.

## **6. Identification and Traceability**

Each PV module used in any solar power project must use a RF identification tag. The following Information must be mentioned in the RFID used on each module (This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions.)

- i. Name of the manufacturer of PV Module
- ii. Name of the Manufacturer of Solar cells
- iii. Month and year of the manufacture (separately for solar cells and module)
- iv. Country of origin (separately for solar cells and module)
- v. I-V curve for the module at Standard Test Condition ( $1000 \text{ W/m}^2$ , AM 1.5,  $25^\circ\text{C}$ )
- vi. Wattage,  $I_m$ ,  $V_m$  and FF for the module
- vii. Unique Serial No. and Model No. of the module
- viii. Date and year of obtaining IEC PV module qualification certificate
- ix. Name of the test lab issuing IEC certificate
- x. Other relevant information on traceability of solar cells and module as per ISO 9000

Site owners would be required to maintain accessibility to the list of Module IDs along with the above parametric data for each module.

## **7. Performance Monitoring:**

All grid solar PV power projects must install necessary equipment to continuously measure solar radiation, ambient temperature, wind speed and other weather parameters and simultaneously measure the generation of DC power as well as AC power generated from the plant. They will be required to submit this data to NRVN and MNRE or any other designated agency on line and/or through a report on regular basis every month for the entire duration of PPA. In this regard they shall mandatorily also grant access to NRVN and MNRE or any other designated agency to the remote monitoring portal of the power plants on a 24 x 7 basis.

**8. Safe Disposal of Solar PV Modules:**

The developers will ensure that all Solar PV modules from their plant after their 'end of life' (when they become defective/ non-operational/ non-repairable) are disposed off in accordance with the "e-waste (Management and Handling) Rules, 2011" notified by the Government and as revised and amended from time to time.



## **Rehabilitation and Resettlement Policy for Solar Parks**

### **Preamble**

Government of India launched a Scheme for setting up at least 25 solar parks each with a capacity of 500 MW and above with a target of over 20,000 MW of solar power installed capacity in a span of 5 years from 2014-15 to 2018-19.

The scheme aims to provide a huge impetus to solar energy generation by acting as a flagship demonstration facility to encourage project developers and investors, prompting additional projects of similar nature, triggering economies of scale for cost-reductions, technical improvements and achieving large scale reductions in GHG emissions. It would enable States to bring in significant investment from project developers, meet its Solar Renewable Purchase Obligation (RPO) mandate and provide employment opportunities to local population. The State will also reduce its carbon footprint by avoiding emissions equivalent to the solar park's installed capacity and generation. Further, the State will also avoid procuring expensive fossil fuels to power conventional power plants.

State Government will identify land for setting up solar park (unless the implementing agency has its own land), based on good solar radiation and sites which are closer to Central Transmission Utility (CTU), preferably locations with spare transmission capacities and water availability.

The land identified for the solar park could be a large tract of contiguous waste land or non-agricultural land with appropriate insolation levels.

The Rehabilitation and Resettlement Policy for Solar Parks will be implemented by the concerned State Authorities as may be set up as per the National Rehabilitation and Resettlement Policy, 2007 or any other Policy as may be formulated by the State Government for the above purpose.

### **1. Principles and Strategies**

1.1 Minimise the acquisition of private land and other assets to the extent possible and avoid acquisition of the homestead.

1.2 Minimise the land requirement through compact and efficient layout of solar plants, offices, training centres and other facilities. Multi-storied facilities may be planned wherever possible to reduce land requirement.

1.3 In case waste land is acquired for setting up solar parks, there is no Project Affected Persons (PAPs) or Person Affected Families (PAFs) and hence there is no requirement of Rehabilitation and Resettlement (R&R).

1.4 In case non-agriculture land is acquired for setting up solar parks, and these lands are Government land not owned by any person or Family, then there is no requirement of Rehabilitation and Resettlement (R&R).

1.5 In case private non-agriculture land is acquired for setting up solar parks, for which there are Project Affected Persons (PAPs) or Person Affected Families (PAFs), then this will necessitate Rehabilitation and Resettlement (R&R).

1.6 Efforts are to be made to minimise the Resettlement transition period and giving a time frame for the same.

## **2. MNRE Support for Rehabilitation Grant**

2.1 For development of local area, village and panchayat area the following rehabilitation package is proposed:

### **2.1.1 Local Area Development Fund**

Affected Area is defined as the Panchayats under which the solar power parks undertaken to be developed. A certain percentage of the total investment made on development of solar park (excluding investment on evacuation) and that for setting up solar power projects in the solar park may be kept aside for the affected area development. This fund may be kept in a separate account called Local Area Development fund to be maintained by the SPPD. This fund may be spent for the following:

- (i) **Development of Affected Area:**  
80% of the value at Sl. No. 2.1.1 above may be utilised for developmental works directly related to development work in  
  
the panchayats such as metalled roads, area drainage, schools, dispensaries, community centres, water supply etc.
- (ii) **Common facilities for the Area:**  
Balance 20% of the value at Sl. No. 2.1.1 may be utilised in developmental works that generally benefit the area/district like higher education, district level hospital etc.

## **3 State Government Support for Rehabilitation & Resettlement package**

3.1 The State Government may also extend support for Rehabilitation & Resettlement of the Community, Local Area and affected persons/ families as per the provisions laid out in the National Rehabilitation and Resettlement Policy, 2007 or any other Policy as may be formulated by the State Government for the above purpose.

## **4 Employment**

4.1 The State Government may offer necessary training facilities for development of entrepreneurship, technical and professional skills for employment in the solar park as well as in the solar projects which are coming up in the solar parks, as per the provisions laid out in the National Rehabilitation and Resettlement Policy, 2007 or any other Policy as may be formulated by the State Government for the above purpose.

## **5 Appointment of a Committee for Rehabilitation and Resettlement and their powers and functions**

- 5.1 Where the appropriate Government is satisfied that there is likely to be involuntary displacement of a large number of persons due to acquisition of land for the development of solar park, it shall, appoint, by notification, by the State Government (s) concerned, in respect of that solar park, an officer not below the rank of District Collector of the State Government to be the Administrator for Rehabilitation and Resettlement (R&R). The District Collector will be assisted by a Committee, headed by the District Collector, and Members from the District Authorities for carrying out Rehabilitation and Resettlement.
- 5.2 The Chief Executive Officer (CEO) of the Implementing Agency (IA) of the solar park shall be the Member Secretary of this Committee. The CEO of the IA will be responsible for handling funds, maintain records of all accounts, and develop transparent policies for carrying out developmental activities in the stated Panchayat areas.
- 5.3 To further continue the developmental activities and thereby maintain of corpus of fund, the solar power developers may contribute voluntarily to the fund.

## **6 Eligibility for R&R benefits**

- 6.1 The Member Secretary of the Committee for R&R, shall identify the PAPs/ PAFs on the basis of a cut-off date as per the law of the land, eliminate/ minimise those who obtain rights in property for R&R benefits only. The list of such PAPs/PAFs may be verified by Gram Panchayat and duly certified by Collector.
- 6.2 The list of occupiers as on the cut-off date as notified by the State Government, shall be finally verified by Gram Panchayat and duly certified by Collector, after verification/ certification by the Forest Department.
- 6.3 Any unauthorised structure shall not be considered for any benefit. However, in case of any such regularization by the Government 3 years prior to land acquisition notification will be considered as a Homestead Oustees (HSOs). A HSO as defined by the concerned State Government shall also be considered for R&R benefits

## **7 Payment of compensation benefits**

- 7.1 The Committee may decide the amount of compensation for the assets acquired for the purpose of solar park, based on the applicable law of the land. They may also consult the State Government for any other mode of compensation. The Committee will also consult SECI, who is the nodal agency on behalf of MNRE, regarding the details of the solar park development fund kept by MNRE for the purpose of R&R benefit.
- 7.2 Once the compensation amount is finalised, the CEO of the Implementing Agency, who is the Member Secretary of the Committee shall send a request to Solar Energy Corporation of India (SECI) for the compensation. MNRE shall verify the amount and upon approval by the Competent Authority then release the amount out of the solar park development fund account as detailed above, to SECI, who will in turn release the same to the CEO of Implementing Agency. All accounts with regard to fund received as R&R

benefit will be properly kept by the CEO of Implementing Agency, so that any over/under payment is avoided/ eliminated.

## **8 Grievance Redressal Mechanism**

6.1 A Rehabilitation and Resettlement Committee at the Project level and at the District level may be constituted by the State Government as per the provisions laid out in the National Rehabilitation and Resettlement Policy, 2007 or any other Policy as may be formulated by the State Government for the above purpose.

## **9 Ombudsman**

7.1 An Ombudsman may be appointed by the State Government, for time-bound disposal of the grievances arising during and after implementation of the solar park and also offer admissible rehabilitation and resettlement benefits as per the provisions laid out in the National Rehabilitation and Resettlement Policy, 2007 or any other Policy as may be formulated by the State Government for the above purpose.

## **10 Inter-State Solar Parks**

8.1 For uniform implementation of Rehabilitation and Resettlement schemes, State Governments and the Union Territories may mutually discuss and formulate a common scheme or plan as per the provisions laid out in the National Rehabilitation and Resettlement Policy, 2007 or any other Policy as may be formulated by the State Government for the above purpose.

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**Lease Deed between the SPPD and the Solar Project Developer**

**(This deed format is for guidance purpose)**

This deed of lease (hereinafter referred to as “Lease Deed”) made on this \_\_\_\_\_ day of \_\_\_\_\_ 2015 at \_\_\_\_\_ (Place).

**Between**

**M/s Name of the SPPD**, a company incorporated under the Companies Act, 1965 (or Companies Act, 2013, as the case may be) having its registered office at \_\_\_\_\_, (herein after referred to as ‘**Lessor**’), which expression shall unless repugnant to the context or meaning thereof, includes its successors-in-office, administrators and permitted assignees of the first part

**And**

**M/s Name of the Solar Project Developer**, a company incorporated under the Companies Act, 1956 (or Companies Act, 2013, as the case may be) having its registered office at \_\_\_\_\_, (herein after referred to as ‘**Lessee**’), which expression shall unless repugnant to the context or meaning thereof include its successors in office, administrators and assignees of the second part

The Lessor and the Lessee are individually referred to as “Party” and collectively referred to as “Parties”.

**WHEREAS**

- (A) The Name of the SPPD was incorporated in the year \_\_\_\_\_ under the Companies Act, \_\_\_\_\_ as a Joint Venture Company between \_\_\_\_\_ and \_\_\_\_\_ with an objective to plan, develop and operate solar parks in the State of \_\_\_\_\_.
- (B) Name of the Solar Project Developer has proposed to establish \_\_\_\_\_ MW Capacity Solar Power project in \_\_\_\_\_ Solar Park being set up by \_\_\_\_\_ (Name of the SPPD) in \_\_\_\_\_ (Location of the Park) and requested for allotment of land.
- (C) A Memorandum of Understanding (MoU) dated \_\_\_\_\_ was signed between \_\_\_\_\_ (Name of the Solar Project Developer) and \_\_\_\_\_ (Name of the SPPD) for setting up \_\_\_\_\_ MW Solar Project(s) in \_\_\_\_\_ (Name of the State) at suitable site(s) identified by \_\_\_\_\_ (Name of the SPPD). SPPD will allot requisite land on payment of nominal lease rent, to be mutually agreed by the Parties, for \_\_\_\_\_ MW Solar Power Project(s) at \_\_\_\_\_ (Name of the Solar Park site) to \_\_\_\_\_ (Name of the SPPD) initially for a period of 25 years with a

provision for further extension on mutually agreed terms (or as per the provision of the State Government).

(D) District Revenue Department of \_\_\_\_\_ (Name of the District), Govt. of \_\_\_\_\_ has handed over Government and Assigned land to an extent of \_\_\_\_\_ Acres covered in Survey Nos. \_\_\_\_\_ of \_\_\_\_\_ Villages \_\_\_\_\_ Taluk/Revenue Division in \_\_\_\_\_ District of \_\_\_\_\_ State to \_\_\_\_\_ (Name of the SPPD) for setting up of \_\_\_\_\_ MWp Solar PV based Project.

**NOW THEREFORE THIS DEED OF LEASE WITNESSETH AS FOLLOWS:**

In consideration of the above, the parties hereby agree to sign the present agreement on mutually agreed terms and conditions contained hereinafter.

- 1) Approx. \_\_\_\_\_ Acres will be provided to \_\_\_\_\_ (Name of the Solar Project Developer) for implementation of \_\_\_\_\_ MWp SPV Power Project in \_\_\_\_\_ (Name of the Solar Park), \_\_\_\_\_ District of State of \_\_\_\_\_ for useful life of the plant i.e. 25 years from the date of commercial operation of the last unit/phase with provision for further extension on mutually agreeable terms as may be agreed between the parties in writing.
- 2) (Name of the SPPD) on execution of the agreement will deliver vacant possession of above mentioned land free from all encumbrances to the Lessee immediately but not later than 15 days from the date of signing of agreement.

**3) Lease Rent:**

\_\_\_\_\_ (Name of the Solar Project Developer) shall pay Annual Lease rent of Rs \_\_\_\_\_/MWp and one time upfront fee of Rs \_\_\_\_\_/MWp towards Land Development Charges for \_\_\_\_\_ MWp to \_\_\_\_\_ (Name of the SPPD) for the usable land physically handed over to \_\_\_\_\_ (Name of the Solar Project Developer's) possession free of any encumbrances, for implementation of \_\_\_\_\_ MWp Solar PV based Power Project at \_\_\_\_\_ (Name of the Solar Park), Dist \_\_\_\_\_ of State of \_\_\_\_\_.

First annual lease rent on prorata basis for the current financial year for the land for \_\_\_\_\_ MWp shall be payable within 30 days of signing of this Lease Deed or handing over of physical possession of land free of any encumbrances, whichever is later. For subsequent period, lease rent shall be payable on or before 30<sup>th</sup> April at the beginning of each financial year.

If payment is delayed beyond 30<sup>th</sup> April of corresponding financial year, \_\_\_\_\_ (Name of the Solar Project Developer) shall pay interest at the rate of 24% per annum for the delayed period.

4) In cases where solar project ownership changes, the land (demised premises) will continue to be provided for the project at same terms and conditions.

5) In cases where project is dismantled or is abandoned or is discontinued for power generation, SPPD will have the right to take back the land from the SPD. In such case, 50% of the upfront fee paid by the SPD will be forfeited by the SPPD and remaining 50% will be adjusted on pro-rata basis based on date when land is taken back.

**6) Default in Payment:**

In case of default of payment by the Lessee beyond 90 days from the due date, the Lessor has right to regulate the common facilities offered to the Lessee by giving one month advance notice in writing.

**7) Charges for water consumption:**

The Lessee shall pay charges for water consumption at actual as per the bill issued by the Lessor every month within 7 days from the date of issuing bill. If the payment is delayed beyond 7 days, the Lessee is liable to pay interest at the rate of 24% per annum for the delayed period.

**8) Transmission charges, SLDC/RLDC and other related charges:**

In case, \_\_\_\_\_ (Name of the SPPD) is liable to pay transmission charges and losses, wheeling charges and losses, SLDC/RLDC charges etc. for evacuation of power from 33/66 kV to 400 kV transmission system, \_\_\_\_\_ (Name of the Solar Project Developer) has to bear the above charges and losses as specified by concerned authority. \_\_\_\_\_ (Name of the SPPD) will forward the bills received from concerned authority towards above charges and \_\_\_\_\_ (Name of SPD) has to pay the bills immediately.

**9) Terms and Conditions for Handing over the land:**

9.1 That the Lessor shall handover the possession of the Scheduled Property to the Lessee situated at \_\_\_\_\_ Villages, \_\_\_\_\_ Taluka, \_\_\_\_\_ District of \_\_\_\_\_ (Name of the State).

9.2 That the Lessee acknowledges and confirms that it has been handed over unrestricted, absolute, vacant and peaceful physical possession of the Scheduled Property, on an exclusive basis by the Lessor.

9.3 That the Lessee shall use the Scheduled Property for Solar power project only and shall not use or sub-lease this lease except for the said purpose mentioned under this lease deed.

9.4 That the Lessee shall not use or allow to be used the land/or the structure thereon or any part thereof for any purpose other than Solar power generation or activities connected or incidental thereto.

## 10 Other Terms and Conditions:

- 10.1 That the Lessee shall provide the required fire-fighting arrangements as per the requirements of such Project(s).
- 10.2 That the Lessee shall comply with all the statutory requirements of Central/State Govt. agencies required for successful commercial operation of the project.
- 10.3 That the Lessee shall be entitled to use the Scheduled property for establishment \_\_\_\_\_ MWp capacity Solar Power project and carry on the activity of electricity generation from such Solar Power project. (The Lessee shall have the sole and exclusive ownership to anything installed (movable or fixed inclusive) on the Scheduled Property during the tenure of the lease).
- 10.4 That the Lessee i.e. \_\_\_\_\_ (Name of the Solar Project Developer) hereby agree that it shall not do any act, which is destructive, or permanently injurious to the Scheduled Property.
- 10.5 That the Lessee agree to maintain the said Scheduled Property in a clean and sanitary condition to the satisfaction of the \_\_\_\_\_ (Name of the SPPD) and shall also maintain the structures, if any, erected thereon as aforesaid, in good, and substantial repair to the satisfaction of the Deputy Commissioner.
- 10.6 That the Lessee shall permit the Officers and Staffs of the \_\_\_\_\_ (Name of the SPPD) with or without workmen at all times to enter upon the scheduled Property aforesaid to view the condition and state thereof.
- 10.7 That the \_\_\_\_\_ (Name of the SPPD) reserves to themselves the right to all trees and their branches and roots which exist at the time of lease (which are described in the Schedule attached) as well as those which may grow subsequently on the lands leased and the \_\_\_\_\_ (Name of the SPPD) shall be at liberty to cut or dig out any such trees or their roots and branches and remove them from the land in question, be entitled to cut or remove them or cause them to be cut or removed without the permission of competent authority. However, such activities shall be carried out by the authorized officials of the \_\_\_\_\_ (Name of the SPPD) without affecting the work/project and other interests of the Lessee.
- 10.8 That the Lessee may uproot, cut down or destroy such trees, plants, groves, or bushes which, in the opinion of the competent authority, is necessary to uproot, cut down or destroy to make the land fit for the purpose of erection of Solar power project and infrastructure development such as road for same and may take them free of charges and dispose of them in any manner he likes. The Lessee may level the ground by removing embanked pathways and filling up low-lying places on the land so as to make the ground fit for the purpose of establishment of solar power project and infrastructure development such as road for same and cut the grass thereon and dispose off the same in manner he likes and do any work on the land which, in the



opinion of the \_\_\_\_\_ (Name of the SPPD), is necessary for such purposes.

10.9 That the Lessee shall follow the instructions given by the competent Authority/Revenue Department/\_\_\_\_\_ (Name of the SPPD) from time to time.

**11. That the Lessee may assign or mortgage its leasehold right in favour of any institution or institutions for the purpose of availing of financial assistance for establishment of Solar power project as sanctioned by Government.**

12. Provided always that, if there be any breach of any of the terms and conditions and covenants herein contained on the part of the Lessee, \_\_\_\_\_ (Name of the SPPD) shall have the right to re-enter in to the possession of the demised land or any part thereof. Provided that \_\_\_\_\_ (Name of the SPPD) shall not exercise such right without serving the Lessee a notice in writing giving three months time to remedy the breach.

13. The Lease period of 25 years as provided herein may be extended for such number of years on such terms and conditions as may be mutually agreed between the Lessor and Lessee and as per the applicable guidelines of the Government of \_\_\_\_\_.

14. At the end of the project life and the lease period or extended lease period as the case may be, and at the time of handing over of the land to the Lessor, the Lessee shall be entitled to dismantle the project and retain for itself the salvage value thereof.

**15. Dispute Resolution:**

All differences or disputes between the parties arising out of or in connection with this Agreement shall be mutually discussed and amicably resolved within 90 days. In the event that the parties are unable to resolve any dispute, controversy or claim relating to or arising under this Agreement, as stated above, the same shall be dealt with as per the provisions of the Electricity Act, 2003. The place of Arbitration shall be the capital city of \_\_\_\_\_.

**16. Notices**

16.1 Any notice required or permitted under the terms of this Lease Deed or required by Applicable Law shall (unless otherwise agreed) be in writing and shall be delivered in person, sent by registered mail or air mail as appropriate, properly posted and fully prepaid in an envelope properly addressed or sent by facsimile to the respective parties as follows:

The Lessor:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Attention: \_\_\_\_\_

Fax No: \_\_\_\_\_

The Lessee:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Attention: \_\_\_\_\_

Fax No: \_\_\_\_\_

### **17. Language**

17.1 The language and all documents, notices, waivers and any other written communication or otherwise between the Parties, in connection with the Lease Deed shall be in English.

### **18. Governing Law**

18.1 This Lease Deed shall be governed by and construed in accordance with the laws of India.

### **19. Indemnity**

19.1 The Lessee hereby indemnifies and shall keep indemnified the Lessor from and against all actions, demands, claims, liabilities, losses, damages, costs, expenses and other liabilities whatsoever brought against, suffered or incurred by the Lessor resulting from or by reason of (i) any breach of any representation, warranty or covenant of the Lessee in this Lease Deed, and (ii) any breach, non-observance or non-performance by the Lessee of any of its obligations under this Lease Deed.

### **20. Amendments**

20.1 Neither this Deed nor any term, covenant, condition or other provisions hereof may be waived, amended, varied, modified, supplemented, discharged or terminated except by an instrument in writing, signed by a duly authorized officer on behalf of each of the Parties.

**IN WITNESS WHEREOF, the Parties hereto have executed this Lease Deed as of the day, month and year first above written**

Signed for and on behalf of the Lessor

Signed for and on behalf of the Lessor

1. Name

Name

Designation

Designation

Witness:

1.

**//SCHEDULE//**