

No. 30/26/2014-15/NSM

भारत सरकार/Government of India

नवीन और नवीकरणीय ऊर्जा मंत्रालय/Ministry of New & Renewable Energy
(National Solar Mission Division)

Block NO. 14, CGO Complex
Lodi Road, New Delhi-110 003
Dtd. 21st March, 2017

To

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

Subject: Administrative sanction for implementation of the Scheme for Enhancement of capacity from 20,000 MW to 40,000 MW for "Development of Solar Parks and Ultra Mega Solar Power Projects"

Sir,

I am directed to convey the sanction of the President of India for implementation of a Scheme for Enhancement of capacity from 20,000 MW to 40,000 MW for "Development of Solar Parks and Ultra Mega Solar Power Projects" for setting up of at least 50 solar parks each with a capacity of 500 MW and above by 2019-20; with an estimated Central Financial Assistance (CFA) of Rs. 8100.00 crore (Rs. Eighty One Thousand Crore only), as per provisions of the Scheme enclosed at Annexure.

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 benefits under the scheme. States with good solar potential which have not yet submitted proposals would be encouraged for setting up of solar parks.

3.2 **Implementation Agency:** The solar parks will be developed in collaboration with the State Governments & their agencies. The Nodal Agency of Ministry of New and Renewable Energy (MNRE), Government of India (GOI) would be Solar Energy Corporation of India (SECI). SECI will administer the scheme under the direction of MNRE and will also handle funds to be made available under the scheme on behalf of GOI.

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 following four the modes as mentioned in Para (3) of the Scheme (guidelines annexed). The agency identified for the development of the

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solar parks shall be termed as Solar Power Park Developer (SPPD). The choice of SPPD for developing and maintaining the park is left to the State Government.

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

4. Projects of any solar technology may come up in the solar park. The flexibility in choosing technology will lie with the Solar Project Developers (SPDs) to 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 SPDs 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 based on the tariff determined by Central Electricity Regulatory Commission (CERC)/State Electricity Regulatory Commission (SERC) or as determined through bidding process. The solar projects may come up under any schemes/programmes of the Central/State/UT Government 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 with the transmission line up to the existing grid of Central Transmission Utility (CTU)/State Transmission Utility (STU) as the second part. The SPPD would be responsible for the first part and the CTU/STU would be 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 SPPDs and CTU/STU. If the capital expenditure for the external power 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 solar park would be released by MNRE to SECI for preparation of DPR of the Solar Park, conducting surveys, etc.
- Beside above, CFA of up to Rs. 20.00 lakh (Rs. Twenty Lakh only) per MW or 30% of the project cost, including Grid-connectivity cost, whichever is lower, would be released on achieving the milestones given under para 7 of the Scheme. The distribution of eligible grant between the SPPD for works within the park and CTU/STU for works outside the park would be as decided by MNRE. For release of requisite funds, the State Government will send a formal proposal to MNRE.
- For administering the scheme and management of fund, SECI will be entitled a management fee @ 1% of the grant released.
- If the park is developed in phases, grant will accordingly be phased out in proportion to the expenditure in each phase.

8. 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.

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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, Minor Head: 101-Grid Interactive & Distributed Renewable Power, Sub Head 01- Grid Interactive Renewable Power; 04-Solar Power, 01.04.35 – Grants for Creation of Capital Assets during the year 2016-17 (Plan) and onwards.

10. This sanction issues in exercise of powers delegated to this Ministry and concurrence of IFD vide their Dy. No. 2163 dated 8.3.2017 and with the approval of competent authority on 20.3.2017.

Enclosure: As above

Yours faithfully,


(Devendra Singh) 21.3.17

Under Secretary to the Govt. of India
Phone: 011-2436 0625

No. 30/26/2014-15/NSM

Dtd. 21.03.2017

Copy for information and necessary action to:

1. All Central Government Ministries/Departments;
2. Principal Director of Audit, Scientific Audit-II, DGACR Building. I.P. Estate, Delhi-02
3. All State/UT Energy Secretaries
4. All Heads of State/UT Nodal Agencies
5. All State/UT Utilities
6. All Solar Power Park Developers
7. CMD, IREDA, August Kranti Bhawan, Bhikaiji Cama Place, New Delhi
8. Managing Director, SECI, New Delhi-110017

Copy to:

1. PS to Hon'ble Minister, New and Renewable Energy
2. PSO to Secretary, MNRE
3. All Advisers & Group Heads/ JS (ANS)/JS (SV)/JS&FA, MNRE
4. Director (NIC), MNRE to upload this on the Ministry's website.
5. CCA, MNRE / Cash Section
6. Hindi Section for Hindi version
7. Sanction folder


(Devendra Singh) 21.3.17

Under Secretary to the Govt. of India

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/m²/day. Solar power projects can be set up anywhere in the country, however the solar power projects scattered in multiple locations lead to higher project cost per MW and higher transmission losses, due to 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. Assured availability of land and transmission infrastructure are the major benefits of the Solar Park Scheme.

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 National Solar Mission (NSM), which provided the policy framework and roadmap for solar power development in the country.

Under Phase I of the the Solar Park scheme, 34 solar parks were sanctioned by the Ministry, having an aggregate capacity of 20,000 MW in 21 states. These parks are at different stages of development. Recent downward trends in solar tariff may be attributed to the factors like economies of scale, assured availability of land and power evacuation systems under the Solar Park Scheme. Based on the excellent response to the Phase-I of the scheme, the capacity of the scheme is enhanced on the similar lines.

2. Proposal

MNRE through this scheme plans to set up at least 50 solar parks, each with a capacity of 500 MW and above; thereby targeting around 40,000 MW of solar power installed capacity including the solar parks sanctioned under the existing scheme. These solar parks would be set up by 2019-20 and the solar projects may come up as per demand and interest shown by developers. Any extension of time beyond 2019-20, may be considered without any financial liability/additional financial implications.

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. 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. Solar parks could be set-up in all States/UTs blessed with good amount of solar radiation. States/UTs with good solar potential which have not yet submitted proposals would be encouraged for setting up of solar parks.

2.2 Capacity: Park to be taken up for development should be of capacity of 500 MW and above. However, 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. Further, smaller parks may also be considered in States/UTs where there is acute shortage of non-agricultural lands.

3. Solar Power Park Developer (SPPD)

The solar parks will be developed in collaboration with the State Governments & their agencies. The Nodal Agency of Ministry of New and Renewable Energy (MNRE), Government of India (GOI) would be Solar Energy Corporation of India (SECI). SECI will administer the scheme under the direction from MNRE and will also handle funds to be made available under the scheme on behalf of GOI.

The States/UTs applying under the scheme will have to designate an agency for the development of solar park. The agency identified for the development of the solar parks shall be termed as Solar Power Park Developer (SPPD). 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.

SECI would not take up solar projects in its own name in the solar parks in new cases, where SECI is a partner in the SPPD.

If the State Government decides to develop solar park through private entrepreneurs (under Mode 4) then in order to give fair chance to all, the State Government must give open advertisement. The State Governments would develop transparent guidelines consisting of financial and technical aspects for selection of private entrepreneurs for development of solar parks. The selection of private entrepreneurs is to be made in a transparent manner on the basis of location and availability of land with the park developers, feasibility of power evacuation system and arrangement of water system etc. This will not apply to solar parks approved already under the existing scheme.

The SPPD, 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/UTs:

- i) Plan, finance, develop, execute, operate and maintain the Solar Park;
- ii) Identify potential site and acquire/leasehold/possess land for Solar Park;
- iii) Carry out site related studies/investigations;

- iv) Obtain statutory & non-statutory clearances and to make area development plan within Solar 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 Project Developer(s) for faster implementation of Solar Power Projects;
- vii) Make water harvesting arrangements in the park area in consultation with Soil Conservation Department/Agricultural Department/Ground Water Department present in the State/UT;
- viii) Measures to be taken to monitor water table through the existing dug-well and in consultation with the Mining and Geology Department of the State or any other Departments that monitors the ground water levels;
- ix) Frame out transparent plot allotment policy and specify procedures pursuant to the relevant State/UT policies and their amendments thereof;
- x) Provide directives for technology-specific land requirements;
- xi) Engage the services of national agencies/global experts/consultants to promote Solar Park and related activities;
- xii) Facilitate the State Government to establish educational institutions/training facilities within Solar Park for development of manpower skill related to Solar Power;
- xiii) Include any other activity related to Solar Park, such as manufacturing as per the directives from MNRE and the State Government;
- xiv) 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, electricity during construction, etc. to make the park functional, will be the sole responsibility of the concerned State/UT Government.

4. Land acquisition / Site selection

Land for the setting up of the Solar Park will be identified by the State/UT Government unless the SPPD has its own land. It will be the responsibility of the State/UT Government to help in making the land available if the SPPD selected by the State/UT Govt. needs help. States/UTs are encouraged to identify sites receiving good solar radiation, water availability and sites which are closer to Central Transmission Utility (CTU)/State Transmission Utility (STU), preferably locations with spare transmission capacities. However, private entrepreneurs selected by the State/UT Government as SPPD may be allowed to arrange their own land for setting up the Solar Park. Land can also be taken on long term lease from Government as well as private sources. In such cases, the State Government/State Nodal Agency (SNA) will ensure that the land is free from any dispute. The park must have approximately 5 acres per MW for setting up 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/UT 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 solar project 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, water surface in big reservoirs, canal bunds and sides of highways can also be accepted if found suitable.

The land conversion charges and stamp duty charges for Solar Parks comes under the domain of the State/UT Government. The State/UT Government may be requested to exempt the land conversion charges and stamp duty charges for Solar Parks.

5. Facilities to be provided

The Solar Park will provide specialized services to incentivize solar project 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.

The SPPD is tasked with acquiring the land for the Park, cleaning it, leveling it and allocating the plots for individual projects. Apart from this, the SPPD 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 projects 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 of pooling stations (with 220kV/66kV or suitable voltage level) to allow connection of individual solar projects with pooling station through a network of underground/overground 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 solar project developers from making the effort of identifying the ideal site for the projects. Where large contiguous land is not available, non-contiguous land is also permitted. 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 project 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 project 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 project developers and the State.

Centralized Weather Monitoring Station would be set-up by the SPPD so as to provide weather data to the projects in the Solar Parks.

6. Financial model

The SPPDs entrusted with developing the park 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

