NATIONAL SOLAR MISSION

Phase-II (2013-17)

Draft Guidelines for Selection of 3000 MW Grid-connected Solar PV Power Projects under Batch-II Tranche-I State Specific Scheme

Government of India

Ministry of New and Renewable Energy

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SECTION-I

BACKGROUND AND INTRODUCTION

1.1 Preamble

The National Solar Mission (NSM) launched in January 2010 is a major initiative of the GoI with active participation from States to promote utilization of solar energy to supplement the country's energy needs. It aims at establishing India as a global leader in solar energy, by creating the policy conditions for its diffusion across the country as quickly as possible. The Mission has set a goal, amongst others, for deployment of 20,000 MW grid connected solar power capacity by 2022 in 3 phases (1000MW in first phase up to 2012-13 -, 9000MW in second phase from 2013 to 2017and 10000MW in third phase from 2017 to 2022).

In order to facilitate grid connected solar power generation in the first phase, a mechanism of "bundling" relatively expensive solar power with thermal power from the unallocated quota of the Government of India (Ministry of Power) generated at NTPC coal based stations, which is relatively cheaper, and onward sale of the bundled power to Distribution Utilities at an affordable price, was adopted. A scheme for selection of 1000 MW Grid-connected solar power projects based on this Mechanism was implemented through NVVN. In the second phase, it is envisaged to select solar power projects of an under various schemes Central Schemes. These include the Viability Gap Funding scheme for Batch-I of 750 MW capacity Solar PV projects that has already been introduced and is being implemented through NVVN.

1.2 Status and achievement against 1000 MW Capacity Grid-Connected Solar Power Projects under Phase-I Bundling Scheme implemented through NVVN:

Solar PV as well as Solar Thermal power projects with an aggregate capacity of 970 MW (besides 84 MW selected under migration scheme) were selected in two batches (batch-I during 2010-11 and batch- II during 2011-12) through a process of tariff based reverse bidding. The resulting tariffs in Batch-I for SPV projects ranged between Rs.10.95 and Rs.12.76 per unit, with average of Rs.12.12 per unit and for Solar Thermal Projects the tariff ranged between Rs.10.49 and Rs.12.24 per unit, with average tariff being Rs.11.48 per unit. In Batch-II, for Solar PV Projects, the tariff ranged between Rs.7.49 and Rs.9.44 per unit, with average tariff being Rs.8.77 per unit. The Solar Power from these plants is being purchased by NVVN and is being sold to Distribution Utilities/ Discoms after bundling with power from the unallocated quota of power from Coal Based Stations of NTPC on equal capacity (MW) basis, thus effectively reducing the

average per unit cost of solar power. A total capacity of 568 MW has been commissioned so far under Phase-1.

1.3 Phase-II Batch-I: 750 MW Viability Gap Funding (VGF) Scheme:

This scheme for setting up of 750MW of Grid Connected Solar PV Projects with VGF support from National Clean Energy Fund (NCEF) is being implemented through Solar Energy Corporation of India (SECI). It entails purchase of power from developers at a fixed tariff of Rs.5.45/ unit (Rs.4.95/unit in case benefit of Accelerated Depreciation is availed) and payment of VGF to the developers as per their bids, limited to a maximum of Rs.2.5crore/MW). Bids for the same (reverse bidding on the VGF) were invited by SECI in October, 2013 in two Categories: 375MW Capacity under DCR (Domestic Content Requirement) and 375 MW Capacity under Open Category. Power Purchase Agreements (PPAs) with the successful bidders/ developers have since been signed in March 2014. The Projects have a Schedule of Commissioning of 13 Months from the Date of Signing of PPA.

1.4 Phase-II Batch-II Scheme:

MNRE now proposes to add a total Solar PV capacity of 15000 MW in three tranches to be implemented through NVVN as part of Phase-II Batch-II. The scheme envisages setting up of Grid-connected solar PV power plants of 15,000 MW aggregate capacity through open competitive bidding as under:

(i) Tranche-I : 3,000 MW : 2014-15 to 2016-17 (Bundling with 1500 MW unallocated NTPC Power from Coal Station allocated by MoP).

(ii) Tranche-II : 5,000 MW: 2015-16 to 2017-18 (selection mechanism to be decided later)

(iii) Tranche-III : 7,000 MW: 2016-17 to 2018-19 (selection mechanism to be decided later)

The present Guidelines lay down the framework for implementation of 3000MW State Specific bundling scheme to be implemented as part of Phase-II Batch-II Tranche-I.

1.5 Scope of the Guidelines

The scope of these guidelines is limited to providing the necessary policy and operational framework for development of projects under the above mentioned "Bundling Scheme". These guidelines are independent and will have no bearing on the projects already selected under earlier schemes of NSM Phase-I & Phase-II.

SECTION-II

2.1 NSM Phase-II Batch-II Tranche-I Bundling Scheme for 3000 MW Solar PV Projects

The 1000 MW Bundling Scheme introduced under NSM Phase-I has been successful in incentivizing setting up of a large number of Solar Power Projects and minimizing the impact of tariff on the distribution companies. The proposed 3000MW Solar PV projects to be selected under Batch-II Tranche-I of NSM Phase-II scheme, will be implemented by NVVN on Solar Parks to be developed through association of central and state agencies. Under Part-I of Tranche-I, 1000 MW PV Projects would be selected for setting of projects in Solar Park to be developed by a JV Company of SECI, NEDCAP & APGENCO at Kurnool district in Andhra Pradesh. The JV Company shall create necessary infrastructure facilities like roads, water, construction power, pooling substations etc. for speedy implementation of the solar projects.

Solar Power Developers SPDs) shall enter into Implementation Support Agreement with JV Company for land & associated infrastructure. The connectivity shall be provided by STU (APTRANSCO)/CTU (PGCIL) with the provision of the STU/CTU pooling substation for the solar park. The SPD shall enter into connectivity and transmission service agreement with the STU/CTU for power evacuation through STU/CTU system.

2.2 Objectives:

The main objectives of the scheme are as follows:

- To facilitate the scale up of solar capacity addition under NSM Phase-II and achieve economies of scale of projects under NSM.
- To supplement grid power
- To facilitate fulfilment of RPO requirement of the obligated entities.
- To facilitate speedier implementation of the new projects to be selected to meet the Phase-II target of NSM;
- Provide long term visibility and road map for solar power development enabling creation of India as a manufacturing hub in the Solar PV.

2.3 Mechanism of Operation:

Specifically, the selection of Grid Connected Solar PV Projects of 1000 MW total capacity shall be carried out by NVVN through a transparent, a tariff based bidding process. NVVN will purchase the power from the successful developers at their bid tariff and sell bundled power (1000 MW Solar Capacity to be bundled with unallocated 500 MW Power from NTPC Coal Station allocated by MoP) to AP Distribution Companies after adding Trading Margin and other incidental expenses. In case 100% capacity is not tied up with AP Distribution companies the remaining capacity shall be offered to Southern Region Discoms. In this regard, NVVN shall enter into suitable Power Purchase Agreement (PPA) with Solar Power Developers and Power Sale Agreement (PSA) with AP Distribution Companies/other Utilities.

2.4 Total Capacity and Portfolio of Solar PV Technology Projects

The total aggregated capacity of the grid connected solar projects to be developed under the present bundling scheme shall be 1000 MW. This scheme provides for deployment of only Solar PV Technology Projects. However, the selection of projects would be technology agnostic and crystalline silicon or thin film or CPV, with or without trackers can be installed.

2.5 Definitions

"Act" or "Electricity Act" shall mean the Electricity Act, 2003 and include any modifications, amendments and substitution from time to time;

"Affiliate" shall mean a company that, directly or indirectly,

i. controls, or
ii. is controlled by, or
iii. is under common control with, a Company developing a Project or a Member in a Consortium Developing the Project and control means ownership by one company of at least 26% (twenty six percent) of the paid up share capital of the other company.

"APTRANSCO": Andhra Pradesh Transmission Company Ltd. being the State Transmission Utility, shall be responsible for development of evacuation facilities from the solar park.

"Applicable Tariff" shall be the quoted Tariff by the selected project developers.

"Bidding Consortium" or **"Consortium"** shall refer to a group of companies that has collectively submitted the response in accordance with the provisions of these guidelines.

"CERC Approved Applicable Tariff" shall mean the Tariff as notified by Central Electricity Regulatory Commission for Solar PV Project applicable for the financial year in which the bidding process is conducted.

"Company" shall mean a body corporate incorporated in India under the Companies Act, 1956 or the Companies Act, 2013 as applicable.

"Commissioning" the Project will be considered as commissioned if all equipment as per rated project capacity has been installed and energy has flown into grid.

"Control" The control shall mean holding more than 50% of paid-up share capital.

"Financial Closure" as defined in clause 3.12

"Group Company" of a company means (i) a company which, directly or indirectly, holds 10% (ten percent) or more of the paid up share capital of the company or (ii) a company in which the company, directly or indirectly, holds 10% (ten percent) or more of the paid up share capital of such company or (iii) a company in which the company, directly or indirectly, has the power to direct or cause to be directed the management and policies of such company whether through the ownership of securities or agreement or any other arrangement or otherwise or (iv) a company which, directly or indirectly, has the power to direct or cause to be directed the management and policies, of the Company whether through the ownership of securities or agreement or any other arrangement or otherwise or (v) a company which is under common control with the company, and control means ownership by one company of at least 10% (ten percent) of the paid up share capital of the other company or power to direct or cause to be directed the management and policies of such company whether through the ownership of securities or agreement or any other arrangement or otherwise.

Provided that a financial institution, scheduled bank, foreign institutional investor, non-banking financial company, and any mutual fund shall not be deemed to be Group Company, and its shareholding and the power to direct or cause to be directed the management and policies of a company shall not be considered for the purposes of this definition unless it is the Project Company or a Member of the Consortium developing the Project.

"Inter-connection point / Delivery/Metering point" shall mean the point where the power from the solar power project is injected into the 132/220/400kV pooling /grid substation). The Metering shall be done at this interconnection point where the power is injected into the STU system i.e. Delivery Point.

For interconnection with grid and metering, the developers shall abide by the relevant CERC Regulations, Grid Code, and Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 and Amendment Regulations, 2010 and as amended and revised from time to time, Technical Standard for Connectivity to the Grid (Amendment) Regulations, 2013.

"Joint Control" shall refer to a situation where control is equally distributed among the interested parties.

JV Company for Solar Park Development: The JV Company shall develop the solar park and operate and maintain the facility. The JV Company shall provide necessary infrastructure facilities for implementation of solar projects to be developed in the park by SPDs.

"Paid-up share capital" means such aggregate amount of money credited as paid-up as is equivalent to the amount received as paid up in respect of shares issued and also includes any amount credited as paid up in respect of shares of the company, but does not include any other amount received in respect of such shares, by whatever name called;

Paid-up share capital includes:

1. Paid-up equity share capital and
2. Fully, compulsorily and mandatorily convertible Preference shares and
3. Fully, compulsorily and mandatorily convertible Debentures.

"Lead Member of the Bidding Consortium" or **"Lead Member"**: There shall only one Lead Member, having the shareholding more than 50% in the Bidding Consortium and cannot be changed till 1 year of the Commercial Operation Date (COD) of the Project;

"**Parent"** shall mean a company, which holds at least 26% of paid up share capital either directly or indirectly in the Project Company or a Member in a Consortium developing the Project.

"Project" is defined by separate points of injection into the grid at interconnection/metering point. Each project must also have a separate boundary, control systems and metering.

'Project Financing Arrangements" means arrangement of necessary funds by the Project Developer either by way of commitment of funds by the company from internal resources and/or tie up of funds through a bank / financial institution by way of sanction of a loan.

"Project Developer": shall mean Bidding Company or a Bidding Consortium submitting the Bid. Any reference to the Bidder includes Bidding Company / Bidding Consortium/ Consortium, Member of a Bidding Consortium including its successors, executors and permitted assigns and Lead Member of the Bidding Consortium jointly and severally, as the context may require";

"Sale Price of Bundled Power" shall include weighted average Tariff of Solar Power as per PPA, CERC tariff for NTPC Coal Station, transmission charges/losses of the STU system/CTU system in any, charges for purchase of RECs, NVVN trading margin and other incidental charges, if any.

"Solar PV Project" means the Solar Photovoltaic power project that utilize direct conversion of sunlight into electricity through Photovoltaic technology.

Solar Park: Solar Park located in Kurnool district Andhra Pradesh/ (or in any other State to be specified)/ coordinates ……degree N ….degree E with all the infrastructure facilities to be developed by the JV Company.

"Technology Partner" shall mean an entity from which the Bidder proposes to take technology support. The word entity means any entity in case it is not providing share capital commitment to a bidding company or consortium. However in case share capital commitment is being provided by the technology provider to a bidding company or consortium then it shall only be a company. This entity can be a Member in more than one Bidding Consortium provided that', it has less than 10% of paid up share capital commitment in each Consortium;

"Trading Margin" NVVN trading margin shall be @5 paisa/kWh with annual escalation@5%.

"Ultimate Parent" shall mean a company, which owns at least twenty six percent (26%) of paid up share capital either directly or indirectly in the Parent and Affiliates.

SECTION-III

GUIDELINES FOR SELECTION OF SOLAR PV PROJECTS

3.1 Capacity of Each Project

Given the requirement to connect the project to the transmission utility substations at 132kV and above, the Project capacity shall be 50 MW. The Capacity of the Project in MW is the installed Capacity of the Project / Maximum Power Output (AC) from the Solar Power Project which can be scheduled at the point of Injection to the grid during any time block of the day.

3.2 Request for Selection for Short-listing of Projects

NVVN shall invite solar project developers (SPDs) to participate in the bidding process against the Request for Selection (RfS) for development of Solar Photovoltaic Power Plants on Build-Own-Operate (B-O-O) basis under this scheme. The Project Developer shall submit the bids against the RfS within 45 days of the invitation by NVVN.

3.3 Processing Fees

The SPDs shall submit non-refundable processing fee of Rs. 2 Lakh for each Project along with the RfS.

3.4 Number of Applications by a Company

The total capacity of Solar PV Projects to be allocated to a Company including its Parent, Affiliate or Ultimate Parent-or any Group Company shall be limited to 250 MW. The Company, including its Parent, Affiliate or Ultimate Parent-or any Group Company may submit application for a maximum of five projects out of three projects in open category and two projects under DCR category subject to a maximum aggregate capacity of 250 MW. However, bids under 2 separate categories can be submitted as per provision under Clause 3.5(D).The Company shall submit one single application in the prescribed format detailing all projects for which the developer is submitting the application.

3.5 Qualification Criteria for Short-Listing of Bids/ Projects

A. Financial Criteria

Net Worth: The Net Worth of the company should be equal to or greater than the value calculated at the rate of Rs 2 Crores or equivalent US$ per MW of the project capacity. The computation' of Net Worth shall be based on unconsolidated audited annual accounts of the company. (i) For companies incorporated on or before 1.4.2010: The Company would be required to submit last four financial years annual audited accounts i.e. 2010-11, 2011-12, 2012-13, and 2013-14 (if available) (or Calendar Years 2010, 2011, 2012 and 2013 or the accounting years as adopted by the Company and acceptable as per the laws of the respective Country) indicating the year which should be considered for evaluation, along with a certificate from the Chartered Accountant to demonstrate the fulfilment of the criteria. (ii) For companies incorporated after 1.4.2010: The company would be required to submit the annual audited accounts for all the Financial Years starting from the financial year in which the company was incorporated and till the financial year ended 31st March 2013 and for the financial year 2013-14 (if available) (or starting from the first accounting year, after incorporation until 2013, as adopted by the company and acceptable as per the laws of the respective Country)indicating the year which should be considered for evaluation, along with a net worth certificate from a Chartered Accountant to demonstrate fulfilment of the criteria. Further, Bank statement starting from Day 1 of incorporation of the Project Company (if incorporated within a period of six months prior to submission of RfS application) or starting from the date six months prior to submission of RfS application. However, for new as well as existing Companies, the Net Worth criteria can also be met as on day not more than seven days prior to the date of submission of RfS by the Company. To demonstrate fulfilment of this criteria, the Company shall submit a certificate from a Chartered Accountant certifying the availability of Net Worth on the date not more than seven days prior to submission of RfS along with a Certified copy of Balance Sheet, Profit & Loss Account, Schedules and cash flow statement supported with bank statement. A foreign company can participate on standalone basis or as a member of consortium at RfS stage. Before signing of PPA it has to form an Indian Company registered under the Indian Companies Act. {Note: For the Qualification Requirements, if data is provided by the Project Developer in foreign currency, equivalent rupees of Net Worth will be calculated using bills selling exchange rates (card rate) USD / INR of State Bank of India prevailing on the date of closing of the accounts for the respective financial year as certified by the Project Developer's banker. For currency other than USD, Project Developers shall convert such currency into USD as per the exchange rates certified by their banker prevailing on the relevant date and used for such conversion. }

Net Worth: =(Paid up share capital + Free Reserves -Revaluation Reserves - Intangible Assets - Miscellaneous Expenditures to the extent not written off and carry forward losses)

** Share premium will form an integral part of Net worth provided it is realized in cash or cash equivalent. However, this condition will not apply in case of listed Companies.

For the purposes of meeting financial requirements only unconsolidated audited annual accounts shall be used. However, audited consolidated annual accounts of the Company may be used for the purpose of financial requirements provided the Project Developer has at least twenty six percent (26%) paid-up share capital in each Company whose accounts are merged in the audited consolidated account and provided further that the financial capability of such Companies (of which accounts are being merged in the consolidated accounts) shall not be considered again for the purpose of evaluation of the Bid.

If the RfS is submitted by a Consortium the financial requirement to be met by each Member of the Consortium shall be computed in proportion to the equity commitment made by each of them in the Project Company. Any Consortium, if selected, shall, for the purpose of supply of power to NVVN, incorporate a Project Company with equity participation by the Members before signing the PPA with NVVN. The Project Developer may seek qualification on the basis of financial capability of its Parent Company and / or it's Affiliate(s) for the purpose of meeting the Qualification Requirements. In case of the Project Developer being a Bidding Consortium, any Member may seek qualification on the basis of financial capability of its Parent Company and / or its Affiliate(s). An Indian company can form an SPV for execution of the project before signing of PPA.

Infusion: The required net worth shall be infused @20% at the time of signing of PPA and balance at the time of Financial Closure with the relevant bank statements.

B. Technical Criteria

Under this scheme, it is proposed to promote only commercially established and operational technologies to minimize the technology risk and to achieve timely and successful commissioning of the Projects. The detailed technical parameters for Solar PV Power Projects to be selected are specified in Annexure 1A.

C. Connectivity with the Grid

(i) The Solar Power Plant should be designed for inter-connection with the 400kV/220kV/132kV pooling /grid substation located in the solar park at voltage level of 132 kV and above through dedicated transmission line/underground cable. The Project Developer shall submit a letter from the APTRANSCO along with RfS confirming technical feasibility of connectivity of plant to pooling substation and Discoms willingness to purchase of power. The developer shall not be entitled for any deemed generation.

(ii) The arrangement of connectivity can be made by the SPD through a dedicated transmission line / Underground cable which the SPD may construct himself or get constructed by STU or Discom or any other agency. The entire cost of transmission including cost of construction of line, wheeling charges, losses etc. from the project up to the interconnection point will be borne by the Project Developer and will not be reimbursed by NVVN or met by the STU/Discom.

(iii) The responsibility of getting connectivity and open access with the transmission system owned by the STU will lie with the Project Developer. The transmission of power up to the point of interconnection where the metering is done shall be the responsibility of the SPD at his own cost.

D. Domestic Content Requirement

Out of the total capacity of 1000 MW under Phase-II Batch-II Tranche-I Part-I, a capacity of 250 MW will be kept for bidding with Domestic Content Requirement (DCR). Under DCR, the solar cells and modules used in the solar PV power plants must both be made in India.

In case of crystalline Silicon technology, all process steps and quality control measures involved in the manufacture of the Solar Cells and Modules from P-type (or N-type) wafers till final assembly of the Solar Cells into Modules shall be performed at the works of PV manufacturers in India. The requisite P-type (or N-type) wafers and other raw materials can be imported.

In case of Thin-film technologies, the entire Modules assembly comprising of Thin-film Solar Cells shall be manufactured in India. The starting substrate (without any semiconductor junction) and other requisite raw materials can be imported.

The Developers at the time of bidding may opt for either "DCR" or "Open" or both the categories. The Developers will submit separate Bids in one envelop in case they wish to bid under both the categories.

E. Registration of Project

SPD shall get registered with the JV Company developing the Solar Park for land lease and other infrastructure facilities and SPD shall submit a copy of the Registration Certificate along with RFS.

3.6 Short-listing of Projects

For selection of projects, NVVN shall evaluate only those applications which are received by the appointed date and time at the head office of NVVN. NVVN will evaluate the Projects for short listing Projects/Developers based on the qualification criteria specified under the Guidelines and all the projects meeting the criteria shall be short-listed by NVVN.

3.7 Selection of Projects based on Applicable Tariff

a. The Short-listed Projects/Project Developers who meet qualification criteria specified under this guidelines would be asked by NVVN to submit Request for Proposal (RfP) separate bids for DCR and open category indicating the Applicable Tariff in Paisa/kWh for 25 years, which in any case shall not be more than the CERC Approved Applicable Tariff. SPD shall indicate whether Applicable Tariff quoted is with Accelerated Depreciation (AD) or without AD.

b. The RfP containing format and detailed mechanism for Applicable Tariff discovery will be issued by NVVN after short-listing of the Projects.

c. Bidders shall be ranked in the ascending order of discovered Applicable Tariff in paisa/kWh through bidding process. For bidding process Applicable Tariff quoted with AD/without AD shall be treated at par. The Projects offering the least Tariff would be selected first and so on.

d. In the eventuality of a tie in the bidding process, the applicant would be selected by draw of lots.

At the end of the selection process, a letter of intent will be issued by NVVN to the selected Solar Projects.

3.8 Power Purchase Agreement

A copy of Draft Power Purchase Agreement to be executed between NVVN and the Project Developer shall be provided by NVVN along with invitation for submission of RfS. Within one month of the date of issue of Letter of Intent (LoI), the Power Purchase Agreement between NVVN and the Project Developer for purchase of power from the project will be executed. The PPA shall be for a period of 25 years from the date of CoD with a provision to extend further by 15 years @ Rs. 3/kWh. This call will be taken after 20 years of operation of PPA. In case of disagreement the project developer may close the project or may seek extension of lease for further 15 years and sell power to third party.

3.9 Bank Guarantees

The Project Developer shall provide the following Bank Guarantees to NVVN in a phased manner as follows:

- Earnest Money Deposit (EMD) of Rs. 20 Lakh/MW in the form of Bank Guarantee along with RfS.
- Performance Bank Guarantee of Rs. 30 Lakh/MW at the time of signing of PPA.

In addition to the Performance Bank Guarantee of Rs. 30 Lakh/MW to be provided at the time of signing of PPA, the Bank Guarantees towards EMD will also be converted into Performance Bank Guarantee making it total of Rs. 50 Lacs/MW as Performance Bank Gaurantee.

In case, NVVN offers to execute the PPA with the Project Developer and if the Project Developer refuses to execute the PPA within the stipulated time period, the Bank Guarantees towards EMD shall be encashed by NVVN. In case the Project is not selected, NVVN shall release the Bank Guarantees within fifteen days of the issue of LoI to selected Projects. The above Bank Guarantees shall be valid for a period of 21 months from the date of signing the PPA.

3.10 Performance Guarantee Deposit (PGD)

SPD shall give Performance Guarantee Deposit (PGD) of Rs. 20 Lacs/MW in the account of NVVN at the time of commissioning of the project and the same shall be refunded to SPD without interest after expiry date of PPA including extension period of 15 years after satisfactory performance of the project. In case of the breach of contract by the developer or non-extension of PPA for further 15 years with NVVN, the above deposit shall be forfeited by NVVN. In the event of change of shareholding resulting into change in control of the project after one year of commissioning, an amount of Rs. 5 Lac/MW on account of transfer fee (non-refundable) shall be deposited by the developer to NVVN. If the PGD is not deposited by the Developer the same will be recovered from the Performance Bank Guarantee.

3.11 Minimum Paid up Share Capital to be held by the Promoter

The Company developing the project shall provide the information about the Promoters and their shareholding in the company to NVVN indicating the controlling shareholding before signing of the PPA with NVVN.

No change in the shareholding in the Company developing the Project shall be permitted from the date of submitting the RfS till the execution of the PPA. However, this condition will not be applicable if a listed company is developing the Project.

After execution of PPA, the controlling shareholding (controlling shareholding shall mean more than 50% of the paid up share capital) in the Company developing the project shall be maintained for a period of (1) one year after commencement of supply of power. Thereafter, any change can be undertaken under intimation to NVVN.

3.12 Financial Closure

The Project Developer shall report Project Financing Arrangements within 210 days from the date of signing Power Purchase Agreement. At this stage, the Project Developer would also furnish the necessary documents to establish possession in the name of the Project Developer of the required land/lease agreement with JV Company developing Solar Park for project development (minimum 2 ha per MW) and the requisite technical criterion have been fulfilled. The Project Developer would also need to specify their plan for meeting the requirement for domestic content.

In case of delay in achieving above condition as may be applicable, NVVN shall encash performance Bank Guarantees and shall remove the project from the list of the selected projects.

3.13 Commissioning

3.13.1 Part Commissioning:

Part commissioning of the Project shall be accepted by NVVN subject to the condition that the minimum capacity for acceptance of first part commissioning shall be 50% of Project Capacity subject to balance Project Capacity thereafter. The commissioned capacity shall be considered in the steps of 5 MW unit size. The PPA will remain in force for a period of 25 years from the date of CoD of the first part commissioning of the project.

3.13.2 Commissioning Schedule and Liquidated Damages for Delay in Commissioning:

The Project shall be commissioned within 13 months from the date of signing of PPA. In case of failure to achieve this milestone, NVVN shall en-cash the Performance Guarantee in the following manner:

(i) Delay up to five months - NVVN will encash the Performance Bank Guarantee on per day basis and proportionate to the Capacity not commissioned.

(ii) In case the commissioning of project is delayed beyond 5 months, the Project Developer shall pay to NVVN the Liquidated Damages at the rate of Rs 1,00,000 / MW per day of delay for the delay in such remaining Capacity which is not Commissioned. The maximum time period allowed for commissioning of the full Project Capacity with encashment of Performance Bank Guarantee and payment of Liquidated Damages shall be limited to 24 months from the date of signing of PPA. The amount of liquidated damages worked out as above shall be recovered by NVVN from the payments due to the Project Developer on account of sale of solar power to NVVN. In case, the Commissioning of the Project is delayed beyond 24 months from the date of signing of PPA, the PPA capacity shall stand reduced / amended to the Project Capacity Commissioned and the PPA for the balance Capacity will stand terminated and shall be reduced from the selected Project Capacity.

3.14 Commercial Operation Date (CoD):

The projects commissioned during a month shall be entitled for payment of energy @Rs 3.00/kWh as infirm power till CoD. The CoD shall commence normally from 30 days from the actual date of commissioning or 1st of the subsequent month, whichever is later. CoD is tuned to match availability of thermal power for bundling. The 25 year tenure of PPA shall commence from Commercial Operation Date.

3.15 Excess generation:

Any excess generation over and above the contracted energy declared will be purchased by NVVN at a tariff of Rs.3/kWh, provided NVVN is able to get any buyer for sale of such excess generation. In case at any point of time, the peak of capacity reached is higher than the rated capacity and causes disturbance in the system at the point where power is injected, the developer will have to forego the excess generation and reduce the output to the rated capacity.

3.16 Purchase of Non-Solar RECs

It has been observed that due to lack of compliance at State level in enforcement of RPOs by obligated entities, has led to a glut in the REC market with accumulation of a number of solar & non solar RECs. In view to simultaneously address this issue, NVVN shall purchase 1 non-solar REC (or proportionate Solar REC so as to match expenditure on non-Solar REC) for every 40,000 Units of bundled power. These RECs will be taken into account by NVVN while pricing bundled power and which shall have very marginal impact on bundled power. NVVN may charge 5 paisa/kWh additional to the bundled power rate in lieu of transfer of each non-solar REC to Discoms of AP. The difference between actual expenditure on procurement of REC and realization @5paisa/kWh shall be deposited in the Payment Security Fund by NVVN.

3.17 Time Schedule for Solar PV Projects

Selection of Solar PV Projects shall be carried out according to the timeline given below:

Sl. No.	Event	Date
01	Notice for Request for Selection	Zero date
02	Submission of Applications with documents for Registration	Zero date + 45 days
03	Short-listing of Projects based on RfS Applications received and decision on tariff bidding	Zero date + 90 days
04	Tariff bidding process and submission of proposals by short-listed developers	Zero date + 105 days
05	Evaluation of Tariff bid proposals	Within 30 days from submission of tariff bid proposals (zero date +135 days)
06	Issue of Letter of Intent	Within 15 days from evaluation of tariff bid proposals (zero date + 150 days)
07	PPA Signing	Within 30 days from the date of issue of letter of intent (LOI date + 30 days)
08	Financing Arrangement for the project	Within 210 days from the date of signing of PPA
09	Commissioning of the Project	13 months from the date of signing of PPA

SECTION-IV
OTHER PROVISIONS

4.1 Role of State Nodal Agency

It is envisaged that the Agency appointed by the State Govt. shall act as a State Nodal Agency, which will provide necessary support to facilitate the development of the Projects to be developed on Solar Parks with necessary infrastructure facilities. This may include facilitation in the following areas:

- Coordination among various State and Central agencies for speedy implementation of projects
- Support during commissioning of projects

4.2 Role of State Transmission Utility

It is envisaged that the State Transmission Utility will provide transmission system to facilitate the evacuation of power from the Projects which may include the following:

- Develop, plan, execute, implement, operate and maintain the 400/220/132kV Pooling/grid substation along with associated transmission lines for evacuation of power from the solar projects at the solar park.
- Provide connectivity to the Solar Projects with the grid
- Support during commissioning of projects
- Coordination among various State and Central agencies for evacuation of power.

4.3 Role of JV Company for Solar Park Development

The Solar Park Developer shall undertake the following activities to achieve the objectives of speedy establishment and implementation of Solar Park in the state of Andhra Pradesh:

(i) Develop, plan, execute, implement, finance, operate and maintain the solar power park

(ii) Identify potential site and to acquire/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) Create necessary infrastructure like water, construction power, roads, drainage etc. to facilitate Solar Power Project development for faster implementation of Solar Power Projects.

(vi) Frame out transparent plot allotment policy and specify procedures pursuant to the relevant State policies and their amendments thereof.

(vii) Enter into Lease agreement and give possession before Financial Closure to SPD for the entire period of the Project.

While it will be the endeavor of the State Agencies /Central Agencies as described above to facilitate support in their respective area of working but nevertheless, SPDs shall be overall responsible to complete all the activities related to Project Development at its own risk and cost.

4.4 Amendment to the Guidelines

Any modification to these guidelines, if necessary, shall be carried out so as to achieve the objectives of the National Solar Mission.

4.5 Power to Remove Difficulties

If any difficulty arises in giving effect to any provision of these guidelines or interpretation of the guidelines or modification to the guidelines, the Secretaries of the Ministry of Power and the Ministry of New and Renewable Energy shall jointly decide the matter, which will be binding on all parties concerned.

Any inconsistencies, due to oversight, may be rectified, after obtaining the approval from the Secretaries of the Ministry of Power and the Ministry of New and Renewable Energy.

4.6 Payment Security Fund

Payment Security Fund (PSF) for grid connected solar power projects to be selected under this scheme would be set up in order to ensure timely payment to the developers. This Fund will have a corpus to cover 3 months payment. The money received from the encashment of bank guarantees, interest accrued, any savings from purchase of RECs, grants from Government/ NCEF will be used to build this fund. The Ministry of New and Renewable Energy will frame Rules to operate this fund.

4.7 Other:

The elaborations/clarifications issued during bidding for NSM Phase-II scheme shall be appropriately incorporated in the next version of these Guidelines.

Annexure-1-A

Technical Requirements for Grid Solar PV Power Plants

The following are some of the technical measures required to ensure quality of equipment used in grid connected solar photovoltaic power projects:

1. SPV Modules

1.1 The SPV modules used in the grid solar power projects must qualify to the latest edition of any of the following IEC PV module qualification test or equivalent BIS standards.

Crystalline Silicon Solar Cell Modules	IEC 61215
Thin Film Modules	IEC 61646
Concentrator PV modules	IEC 62108

1.2 In addition, SPV modules must qualify to IEC 61730 for safety qualification testing at 1000V DC or higher. The modules to be used in a highly corrosive atmosphere throughout their lifetime must qualify to IEC 61701.

2. **Power Conditioners/ Inverters**

The Power Conditioners/ Inverters of the SPV power plants must conform to the latest edition of IEC/ equivalent Standards as specified below:

Efficiency Measurements	IEC 61683
Environmental Testing	IEC 60068 -2
EM Compatibility (EMC)	IEC 61000 series -relevant parts
Electrical safety	IEC 62103/ IEC 62109-1&2
Anti-Islanding Protection	IEE1547/UL 1741

3. Other Sub-systems/ Components:

Other subsystems/components used in the SPV power plants (Cables, Connectors, Junction Boxes, Surge Protection Devices, etc.) must also conform to the relevant international/ national Standards

for Electrical Safety besides that for Quality required for ensuring Expected Service Life and Weather Resistance. (IEC Standard for DC cables for PV systems is under development. It is recommended that in the interim, the Cables of 600-1800 Volts DC for outdoor installations should comply with the draft EN50618 for service life expectancy of 25 years).

4. Authorized Test Centres

The PV modules / Power Conditioners deployed in the power plants must have valid test certificates for their qualification as per above specified IEC/ BIS Standards by one of the NABL Accredited Test Centres 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 W/m2, AM1.5, 25^0 C)
vi. Wattage, Im, Vm 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 NVVN 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 *NVVN* and MNRE or any other designated agency to the remote monitoring portal of the power plants on a 24X7 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.

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