

## 6 Performance Criteria

### 6.1 Minimum Values of Module Performance and Local Value Addition (LVA)

SMMs will have to fulfill certain minimum values of module performance (combination of module efficiency and module's temperature co-efficient of  $P_{max}$ ) and Local Value Addition (LVA) for being eligible for PLI, as follows:

Parameter & integration category		Minimum values required for 1 <sup>st</sup> year after commissioning	Minimum values required for 2 <sup>nd</sup> year after commissioning	Minimum values required for 3 <sup>rd</sup> year after commissioning	Minimum values required for 4 <sup>th</sup> year after commissioning	Minimum values required for 5 <sup>th</sup> year after commissioning
Module Efficiency* & Module's temperature co-efficient of $P_{max}$	P+W+C+M	Minimum module efficiency of 21.00% with temperature coefficient of $P_{max}$ equal to or better than -0.40% per degree Celsius OR Minimum module efficiency of 20.50% with temperature coefficient of $P_{max}$ better than -0.30% per degree Celsius				
	W+C+M					
	C+M					
Local Value Addition (LVA)	P+W+C+M	75%	78%	82%	86%	90%
	W+C+M	60%	65%	70%	75%	85%
	C+M	50%	55%	60%	65%	75%

*\*Under Standard Test Conditions (STC), i.e. Irradiance 1000 W/m<sup>2</sup>, cell temperature 25°C, air mass (AM)= 1.5;*

6.2 At the time of submission of response to RfS, as part of the second envelope, the Bidders will be required to submit the following details in the Performance Parameters Matrix (PPM) as per Format 7.10:

- Extent of Integration
- Manufacturing Capacity proposed to be set up (in GW)
- Year-wise percentage of Local Value Addition (LVA)
- Year-wise performance parameters of manufactured modules (module efficiency and module's temperature co-efficient of  $P_{max}$ ).

The Bidder shall also be required to declare the plan for local value addition, and the estimated employment generation and exports during the tenure of the Scheme, in the Performance Parameter Matrix at the time of bid submission.

6.3 **Shortfall in demonstrating Performance Criteria:** In case for any given year, the Manufacturer falls short on quoted level of module performance and/or quoted level of LVA, the procedure for calculation of penalties shall be as detailed below.

Applicable penalty will be the higher of:

- Penalty on account of efficiency default alone; and
- Penalty on LVA default alone,

wherein the penalty on account of default on efficiency alone will be calculated as the difference of:

- PLI calculated using actual achieved levels of efficiency, temperature coefficient & LVA, but excluding applicable penalties; and
- PLI calculated using actual achieved levels of efficiency, temperature coefficient & LVA, but including applicable penalty on account of efficiency alone;

and the penalty on account of default on LVA alone will be calculated as the difference of:

- PLI calculated using actual achieved levels of efficiency, temperature coefficient & LVA, but excluding applicable penalties; and
- PLI calculated using actual achieved levels of efficiency, temperature coefficient & LVA, but including applicable penalty on account of LVA alone;

(i) **Calculation of Penalties on account of default on quoted level of efficiency alone:**

a. The total sales (in MW) in a given year, for which the selected bidder/SMM has submitted claims for PLI for that given year, will be divided into following three groups:

**Group-1:** Sales (in MW) which have module efficiency equal to or better than that quoted by the selected bidders/SMM for the given year.

**Group-2:** Sales (in MW) which have module efficiency lower than that quoted by the selected bidder/SMM for the given year but equal to or higher than the value of module efficiency (say 'X%') which is 0.5 percentage point lower than the value of module efficiency quoted by the selected bidder/SMM for the given year, subject to the 'X%' being higher than the minimum efficiency level prescribed in Clause 6.1 of this RfS.

**Group-3:** Sales (in MW) which have module efficiency lower than 'X%' but equal to or higher than the minimum efficiency levels prescribed in Clause 6.1 of this RfS.

- b. The penal provisions for default in quoted levels of module efficiency have been further clarified as follows:

	Applicable penalty on account of efficiency default (in %)	
	Year 1	Year 2/3/4/5
<b>Sales falling in Group-1</b>	<b>Nil penalty</b> , subject to <b>min. 75%</b> of sales for which PLI is claimed falling in Group-1, failing which no PLI shall be admissible for Year-1	<b>Nil penalty</b> , subject to <b>min. 90%</b> of sales for which PLI is claimed falling in Group-1, failing which no PLI shall be admissible for Year-2/3/4/5
<b>Sales falling in Group-2</b>	25% penalty	No PLI shall be admissible for sales falling in Group-2
<b>Sales falling in Group-3</b>	No PLI shall be admissible for sales falling in Group-3	

Eg. If bidder had quoted efficiency of 23% in the first year and achieves 22.6% efficiency for first year, 25% penalty will be applicable for first year and if it achieves 22.6% in the subsequent years, no PLI shall be admissible for those years.

(ii) **Calculation of Penalties on account of default on quoted level of LVA%, alone:**

	Achieved LVA level	Applicable penalty on account of LVA default (in %)	
		Year 1	Year 2/3/4/5
Sales for which PLI is claimed	Equal to or higher than quoted LVA	No penalty	No penalty
	Lower than quoted but equal to or higher than (quoted LVA% minus 3% points), subject to achieved level being equal to or higher than min. prescribed LVA	25% penalty on max permissible default of 3% & pro-rata for smaller defaults	No PLI shall be admissible for Year-2/3/4/5
	Lower than (quoted LVA% minus 3% points) / Lower than min. prescribed LVA	No PLI shall be admissible for Year-1	No PLI shall be admissible for Year-2/3/4/5

Eg. If bidder had quoted 95% LVA for first year and achieves 92% LVA for first year, 25% penalty will be applicable. However, if bidder had quoted 95% LVA for first year and achieves, 94% LVA for first year,  $25 \times (1/3) = 8.33\%$  penalty will be applicable.

## 7 *Construction Plan Monitoring*

- 7.1 Bidders are required to submit the following documents with their response, as part of response to RfS:
- Construction Plan
  - Clearances/ approvals required from various Government departments/ Local Bodies
  - Timelines/ PERT chart of major construction activities
  - Timelines for applying for/obtaining various clearances/ approvals.
- 7.2 SMM shall be required to submit the Quarterly Progress Report to SECI containing the Project progress updates with respect to above parameters as part of its response to RfS, along with reasons for delay, if any.
- 7.3 MNRE/SECI and/or its authorized agency will have the right to carry physical inspection of SMM's Manufacturing Facilities and offices. SECI reserves the right to appoint Independent Engineer/ Firm for monitoring of the construction activity. SMMs are required to apply to MNRE for being empanelled under the "Approved List of Models and Manufacturers" (ALMM) as per "Approved Models and Manufacturers of Solar Photovoltaic Modules (Requirements for Compulsory Registration) Order, 2019" of MNRE.
- 7.4 The construction period for commissioning of the Manufacturing Facility will start from the date of issuance of LoA by SECI. Timelines of the commissioning will be as per the timelines for the corresponding extent of integration as per Clause 9.

## 8 *Characteristics of the Manufacturing Facility*

### 8.1 **Greenfield and Brownfield Projects:**

- The Bidders are required to setup either Greenfield or Brownfield Manufacturing Facility for the entire capacity quoted. Greenfield Solar PV module manufacturing will involve installation of new plant, machinery and equipment. Such Greenfield units must be established in physically segregated premises from any existing manufacturing units.
- If a Bidder who was issued LoA by M/s IREDA under the Tranche-I tender, is awarded additional capacity under this RfS, the new capacity established will be considered as Greenfield, even if it shares common facilities/ infrastructure built for the capacity under PLI Tranche-I.
- Brownfield Manufacturing Facilities will involve expansion of existing Manufacturing Facilities with addition of new production lines within existing physical infrastructure and will also be allowed to participate. PLI receivable for such Brownfield Projects will be 50% of the PLI receivable for Greenfield Projects.
- Based on this, the Bidders are required to submit the classification of their proposed Project as Greenfield or Brownfield in the Format 7.1. In case of the Bidder declaring

the Project as a Brownfield facility, details of the existing Manufacturing Facility shall be provided as annexure to Format 7.1. In case of Brownfield Projects, the Bidder shall also submit a certificate from a Chartered Engineer, certifying the existing manufacturing capacity of the Project, as on the bid submission deadline, including the manufacturing capacity of each of the individual stage of integration, as per the Basket chosen by the Bidder. The certificate shall specifically indicate the production record of such facility, and the maximum capacity produced by each level of integration as on the bid submission deadline.

e. Decision of MNRE/SECI/any agency designated by SECI/MNRE with respect to classification of a Manufacturing Facility as Greenfield or Brownfield shall be final and binding on all parties.

8.2 SECI reserves the right to visit the Manufacturing Facility(ies) of the SMM at any point of time after issuance of LoA, for verification of manufacturing capacity and nature of the Facility (Greenfield/Brownfield), as proposed by the Bidder. Such visit may also be conducted by NISE or any other authorized agency on behalf of SECI/MNRE.

8.3 In cases of re-designation of a Greenfield Project to a Brownfield Project and vice versa, as decided in line with Cl. 8.1.e. above, the PLI applicable for the Project shall be modified by SECI, as per the provisions of Clause 8.1. In case of an erstwhile “Brownfield” Project being subsequently labelled as a “Greenfield” one, the PLI amount originally awarded shall remain unchanged.

8.4 **Sustainable Manufacturing**

a. To fulfil the objective to encourage sustainable manufacturing practices and adoption of circular economy approaches, SMMs will be required to set up facilities for recovery and recycling of solar waste. SMMs will be encouraged to adopt circular economy principles in their manufacturing and supply chains.

b. Further, considering India’s International commitments, particularly to achieve about 50% cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, the scheme would encourage use of renewable energy in the manufacturing facilities set up under this scheme. The Successful Bidders will ensure that at least 20% of the electricity consumption for the solar PV manufacturing plant will be sourced from renewable energy sources. Different modalities for compliance of this requirement will be permitted.