

# **Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited**

Tender Document

for

Design, Supply, Installation, Testing, Commissioning and  
Maintenance of 45 MW of Grid Connected Solar Photovoltaic Power  
Plants

In  
Madhya Pradesh

Tender document cost : Rs.21,000/- (plus applicable GST)

Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited  
'Nistha Parisar', Govindpura, Bhopal, M.P. – 462 023  
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Madhya Pradesh Power Management Company Limited (MPPMCL), the holding company for electricity distribution companies in the state of Madhya Pradesh has authorized Madhya Pradesh Madhya Kshetra Vidyut Vitaran Co. Ltd.(MPMKVVCL) as the tendering agency for implementing the Residential Rooftop Solar Subsidy Scheme in the state of Madhya Pradesh. This tender is issued by the Chief General Manager (Procurement), MP Madhya Kshetra Vidyut Vitaran Co. Ltd. for Design, Supply, Installation, Testing & Commissioning of Grid connected Rooftop Solar Photovoltaic Systems in residential premises, aggregating to 45 MW, on behalf of the three DISCOMs in Madhya Pradesh.

This Tender Documents along with Formats, Annexures etc. is issued to

**M/s.** .....  
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**NOTE:**

- (i) This document is not transferable.
- (ii) Though adequate care has been taken while preparing the tender Documents, the Bidder shall satisfy himself that the document is complete in all respects. Intimation of any discrepancy shall be given to this office immediately. If no intimation is received from any Bidder within seven days from the date of issue of the bid documents, it shall be considered that the bid document is complete in all respects and has been received by the Bidder.
- (iii) The MP Madhya Kshetra Vidyut Vitaran Co. Ltd. (MPMKVVCL) may modify, amend or supplement this tender Document including Capacity Allocation.
- (iv) The selection of Bidders shall be carried out through e-procurement process. Proposal/Bids are to be submitted online in electronic format on website <https://mptenders.gov.in/> as per tender document.
- (v) Please see regularly our website <https://mptenders.gov.in/> for latest up-date after issue of this tender. All modification / amendment / clarification / information etc shall be available on the website of e-procurement only.
- (vi) MPMKVVCL may at its discretion, extend the deadline for submission of the Proposals.

Correspond at:-

Chief General Manager (Procurement) ,

Regd. & Corporate Office:

Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited  
'Nistha Parisar', Govindpura, Bhopal, M.P. – 462 023  
Email: [cgmproccz@gmail.com](mailto:cgmproccz@gmail.com)



**Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited**  
‘Nistha Parisar’, Govindpura, Bhopal, M.P. – 462 023

**Brief of Schedule of Dates of Tender**

Programme & detail of work	Design, Supply, Installation, testing, Commissioning and Maintenance for 5 Years of 45 MW of grid connected SPV Power Plants for residential consumers in the State of Madhya Pradesh		
Work Area:	Entire Madhya Pradesh State.		
NIT No:	<b>NIT No: MD/MK/04/NIT/4810</b> , <b>Dated: 13.04.2020</b>		
Estimated Capacity of Project (Total 45 MW Capacity) {This capacity of work can be increased/decreased as per availability of Capacity & CFA allocation as sanctioned by MNRE, GoI }	Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited (MPMKVVCL) Lot 1	Madhya Pradesh Poorva Kshetra Vidyut Vitaran Company Limited (MPPoKVVCL) Lot 2	Madhya Pradesh PaschimKshetra VidyutVitaran Company Limited (MPPKVVCL) Lot 3
	<b>20 MW</b>	<b>10 MW</b>	<b>15 MW</b>
Estimated Project Cost:	INR 243 Crores		
<b>Applicable EMD</b>	INR 1 lakh	INR 1 lakh	INR 1 lakh
<b>Exemptions</b>	SSI Units registered with DIC/NSIC / UDHYOG ADHAR/MSME	Exempted from submission of EMD	
	Start up registered with DIPP (Department of Industrial Policy & Promotion)		
Document download/Sale start date { from <a href="https://mptenders.gov.in">https://mptenders.gov.in</a> }	16.04.2020, 06.00 PM		
Last date of submission of online Pre-Bid Queries	18.05.2020, 03.00 PM (Clarification/Suggestions are invited online through the link available on the <a href="https://mptenders.gov.in">https://mptenders.gov.in</a> )		
Date of Pre-bid Meeting	20.05.2020, 12 Noon		
Start Date of online submission of Bid	22.05.2020, 3.00 PM		

Last Date of online submission of Bid	29.05.2020, 12 Noon
Date of Opening of online Cover-A & Cover-B	30.05.2020, 12 Noon
Date of opening of Financial bid of eligible bidders (cover-C)	Shall be intimated to qualified bidders after evaluation of Technical bid
Date of Completion of work.	11 Months from the date of issue of Letter of Award.
Validity of prices for taking up further work:	Till completion period.
Cost of Tender:	Rs.21,000/- plus GST@18% i.e. Rs. 24780/- Total(For 3 Lots). It shall be Rs. 7000/- plus GST@18%ie Rs.8260/- per Lot.
e-procurement Charges:	As applicable

**NOTE:**

- (i) Proposals are to be submitted online in electronic format on website <http://https://mptenders.gov.in> as detailed hereunder and Documents to be submitted in physical form are also detailed hereunder:

The bidders are requested to submit their bids prior to last date of submission to avoid Non-submission of their bids up to prescribed date & time due to non-availability / hanging of website, at either ends, at last moment or any reason whatsoever. The last date of submission of bids will not be extended on such account.

- (i) The bidder will have to deposit the following documents in Cover-A. This is essential otherwise the other bid documents in Cover B & Cover C) of that bidder will not be opened. The contents of the Cover-A are:
- Valid documentary evidence of submission of online EMD of Rs. 1 lacs (or EMD Exemption Certificate if applicable). For all tendering modes and methods, EMD shall be submitted ONLINE by bidders.
  - E-procurement portal processing fee as per actuals
  - Tender document fee of INR 21,000 + GST (FOR 3 LOTS).It shall be INR 7000 + GST per Lot.
- (ii) List of required Formats/documents to be submitted online duly signed digitally by Authorized Signatory:
- Cover-A: Documentary proof of EMD, tender document fee and e-procurement portal fee.

- b) Cover-B: All Non-financial information in the Formats as per tender (in .pdf).
- c) Cover-C: Price bid as per Formats (Annexure-4) online in .xls format/formats. This format is to be downloaded from <https://mptenders.gov.in/>, filled & uploaded back to <http://eproc.madhyapradesh.gov.in>. If the prices are quoted anywhere in Cover-A and/or Cover-B (Technical Bid) by any bidder, their offer will be summarily rejected.
- (iii) Cutting / overwriting if any in the figures of the tendered documents is required to be clarified / indicated in words, duly signed, failing which the tender may be rejected.
- (iv) Deviation of any kind is “not” to be quoted in the financial bid. Such deviations shall not prevail.
- (v) The bidders should provide complete information at the time of submission of bid. If the bidders are asked to furnish some more clarification/confirmation/document, they shall be required to furnish the same within specified time, failing which the case shall be finalized /decided on the basis of available information/documents. The responsibility of ignorance of their bid on account of delay in furnishing of desired information/documents shall be of the bidder. However, if there are any shortcomings in the submission of the information which not materially affects the qualification criterion, then the Bid Evaluation Committee shall have the power to consider the facts on the merit of the case and decide the bid evaluation accordingly.
- (vi) All tender documents should essentially be signed digitally and submitted/uploaded on <https://mptenders.gov.in> in time as per checklist.
- (vii) Bidders may examine Annexure-9 for detailed instruction for using online tender portal.
- (viii) All the required information shall be furnished strictly in the prescribed formats only. Any information indicated other than the prescribed formats shall not be entertained. The bid shall be evaluated on the basis of information furnished in the prescribed formats only.
- (ix) MPMKVVCL may advise any bidder to furnish the documents in original or copy thereof duly attested by Notary for verification, in physical form on short notice of three days.
- (x) Correspondence for enquiries and clarifications: All correspondence in respect of the tender and submission of the Tender shall be addressed to:

Chief General Manager (Procurement),  
Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited  
‘Nistha Parisar’, Govindpura, Bhopal, M.P. – 462 023

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## SECTION – 1 INTRODUCTION & ABBREVIATIONS

### 1. Background

Ministry of New and Renewable Energy, Govt. of India has issued the Operational Guidelines for implementation of Phase-II of Grid Connected Rooftop Solar Programme for achieving cumulative capacity of 40 GW of Rooftop Solar (RTS) projects for the Country by the year 2022 vide O.M. No. 318/331/2019-Grid Connected Rooftop Dated 20.08.2019. Under this programme, CFA has been restructured for Residential Sector only with higher Central Financial Assistance upto 40% for RTS System upto 3 kW capacity. For RTS System Capacity above 3 kW and upto 10 kW, CFA of 40% would be applicable only for first 3 kW capacity and for capacity above 3 kW, the CFA would be limited to 20%. As per the Guidelines, the programme will be implemented through by Discoms, since they are in direct contact with end consumer. The rooftop solar (RTS) plant is a system installed mainly on the roof of a building and includes installations on open contiguous land within the area of premises wherein valid and live electricity connection has been provided by the concern Distribution utilities/companies (DISCOMS).

Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited, with the support of Financial Assistance from MNRE in Residential Sector under SPV Rooftop Programme 2019-20, wishes to select competent, experienced and financially sound manufacturers / suppliers/system integrators to supply, install, commissioning and to maintain Solar Photovoltaic Grid Connected Systems in area of various districts of Madhya Pradesh on behalf of the three Madhya Pradesh Discoms. The three DISCOMS would release the subsidy to the eligible manufacturers / suppliers/system integrators after installation of systems in their DISCOM zone as per terms and conditions of this tender.

Above work is to be carried out on „Turn Key Basis“ which includes identification of beneficiaries in Madhya Pradesh, collection of their share of cost after adjusting MNRE financial assistance, design, supply of SPV systems with all accessories and equipments, installation, testing, commissioning and maintenance services for 5 years with free replacement warranty on spare parts against manufacturing defects for five years.

Expected capacity of SPV systems for the entire Madhya Pradesh State will be 45 MW as detailed below. This quantity may further increase/decrease as per availability of allocations and CFA for this programme from MNRE, GoI.

DISCOM Name:	Madhya Pradesh Poorva Kshetra Vidyut Vitaran Company Limited (MPPoKVVCL)	Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited (MPMKVVCL)	Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Limited (MPPKVVCL)
MNRE Sanctioned Capacity	10 MW	20 MW	15 MW

### 2. Mode of Execution of Programme:

The basis of evaluation of the bids shall be the cost/rate quoted in the Price Schedule. To



further clarify, installation and commissioning cost and taxes etc. shall be inclusive to the cost of supply of complete system including FIVE years comprehensive maintenance for comparison and evaluation. Proposers are required to quote rate / cost on firm basis and no price variation on any account shall be considered.

The selected Empanelled Vendor shall identify beneficiaries to supply, install, commission systems and provide maintenance services for 5 years with free replacement warranty on spare parts against manufacturing defects for five years. They shall also be required to set up their repair and maintenance centres for providing effective repair/maintenance services to the beneficiaries / users and meet conditions as given in Section 2.

The Programme shall be carried out as per guidelines at Section-2 and as given hereunder:-

- (i) The Empanelled Vendor shall be allowed to install the systems conforming to the MNRE specifications / guidelines after authorisation by the DISCOM in whose area system is being installed.
- (ii) For this MPMKVVCL shall give specific targets / limits to each selected bidder and fix prices for sale of systems to the user (beneficiaries).
- (iii) The Empanelled Vendor may claim subsidy from the respective DISCOM by submitting complete list of buyers alongwith full addresses, date of sales, models and makes and serial numbers of systems & PV modules and BOS supplied along with the photographs of installed system duly verified by respective DISCOM's field Project Officer/Project Manager or authorised representative from the respective DISCOM Head Office.

### 3. Definitions and Abbreviation

#### Definitions

1	<b>“Appropriate Authority”</b>	: CEA, BIS, MPERC, MNRE or any other Authority authorized by the Government of India or Government of Madhya Pradesh.
2	<b>“Beneficiary”</b>	: <b>“Beneficiary”</b> shall mean the Residential category Consumers of Government owned and private DISCOMS, Distribution Licensee in Madhya Pradesh State for 1-phase / 3-phase connection of Supply of Electricity and who have applied to participate in the Residential Solar Rooftop Subsidy Scheme of Government
3	<b>“Bidder”</b>	: The <b>“Bidder”</b> shall mean the EOI applicant whose offer is received by MPMKVVCL as per eligibility criteria and shall include such EOI applicant's heirs, legal representatives, successors and assignees. Here, in this case, the EOI applicant/Bidder shall not be a Joint Venture or a Consortium or an Associate.
4	<b>“Tender Document”</b>	: <b>Tender Document</b> means this Tender Document having number [Keywords] dated [Publish Date] including all its documents, along with all formats, annexures, corrigendum, modifications, amendments and clarifications thereto; in on-line and physical submission of offer in response to this Tender Document in accordance with the terms and condition thereof.
5	<b>“Circle”</b>	: <b>“Circle”</b> means Operation and Maintenance Circles of DISCOM.



6	<b>“Contract”</b>	:	The <b>“Contract”</b> shall mean the agreement to be entered into by the DISCOM with the Empanelled Agency upon receiving the Letter of Empanelment from DISCOM for implementation of the Scheme/ Project and shall include the General and commercial terms & condition, scope of work, project requirement, technical conditions, schedules, appendixes, drawings and any other conditions specifically agreed between the parties forming a part of the contract
7	<b>“Empanelled Agency”/ “Successful Bidder”/ “Supplier”/ “Contractor”/ “Agency”</b>	:	The <b>“Empanelled Agency”/“Successful Bidder”/ “Supplier”/ “ Contractor”/”Agency”</b> shall mean the Bidder, whose Bid has been accepted by the DISCOM for empanelment as registered supplier /agency which shall include his authorized representatives after duly paying empanelment fee and having signed the ‘contract’ agreement with DISCOM.
8	<b>“Company”</b>	:	<b>“Company”</b> shall mean Electricity Distribution Company (DISCOM) in state of Madhya Pradesh namely MPPoKVVCL, MPMKVVCL and MPPKVVCL.
9	<b>“Date of completion of Project”</b>	:	<b>“Date of completion of project”</b> shall mean that the date of completion of project with project handed over and accepted by the consumer Applicant in all respect provided that the CMC of 5 years, Guarantee and warrantee of 5 years shall be applicable as per the EOI Document terms and condition after the date of completion of Project.
10	<b>“DISCOM”</b>	:	<b>“DISCOM”</b> Shall mean electricity Distribution Companies and subsidiaries of Madhya Pradesh Power Management Company Limited namely MPPoKVVCL, MPMKVVCL and MPPKVVCL.
11	<b>“Division”</b>	:	<b>“Division”</b> Shall mean Operation and Maintenance Division of DISCOM.
12	<b>“EMD”</b>	:	The <b>“EMD”</b> shall mean Earnest Money Deposit which is required to pay as per the Tender Document condition.
13	<b>“Engineer” / “Engineer-in-charge”</b>	:	The <b>“Engineer”/ “Engineer-in-charge”</b> shall mean the Authorized Officer of the DISCOM
14	<b>“EPC”</b>	:	<b>“EPC”</b> Shall mean Engineering, Procurement and commissioning of the complete project as per the terms and condition of the Tender Document
15	<b>“Financial Year” or “FY”</b>	:	<b>“Financial Year” or “FY”</b> shall mean the Period starting from 1 April of the first calendar year to 31 March of the consecutive calendar year.
16	<b>“Guarantee Period” / “warrantee period”</b>	:	The <b>“Guarantee Period”/ “warrantee period”</b> shall mean the period during which the Empanelled Agency shall remain liable for replacement / repair and maintenance of any defective parts / work performed by the Empanelled Agency under the contract as per the conditions of Tender Document.

17	<b>“Implementing Agency”</b>	:	Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited (MPMKVVCL) is the authorised by Madhya Pradesh Power Management Company Limited to be Implementing Agency for the Scheme of Residential Solar Subsidy Scheme in the State of Madhya Pradesh through itself and its sister DISCOMs.
18	<b>“Letter of Empanelment / Notice of Award of Contract / Letter of Award”</b>	:	<b>“Letter of Empanelment / Notice of Award of Contract / Letter of Award”</b> shall mean the official notice issued by the DISCOM, notifying the successful EOI applicant that his offer has been accepted for the empanelment with informing the successful Bidder to pay Security Deposit (SD) and execute the Agreement with DISCOM as per the terms and conditions.
19	<b>“Order” / “Acceptance of EOI Offer”</b>	:	The <b>“Order” / “Acceptance of Bid”</b> shall mean the official letter issued by the <b>DISCOM</b> informing the Bidder that his Bid offer has been accepted.
20	<b>“Party” or “Parties”</b>	:	<b>“Party” or “Parties”</b> Shall mean the Successful Bidder who has signed the Contract with the DISCOM towards the fulfilment of the Terms and Conditions of this Tender Document.
21	<b>“Project”</b>	:	<b>“Project”</b> Shall mean the project of the Design, Supply, Installation, testing & Commissioning of Grid connected Rooftop <b>Solar Photovoltaic Systems in Residential premises, for the application registered with the Empanelled Agency, including five years comprehensive maintenance for which the offers are invited covering all aspects and terms and conditions as per the EOI Document documents. The project covers Supply, Installation, Testing and Commissioning of Grid connected Solar PV system with CMC of 5 years for Residential consumers as per the EOI Document.</b>
22	<b>“Project Management Consultant” (PMC)/ “Consultant”</b>	:	<b>“Project Management Consultant” (PMC)/ “Consultant”</b> Shall mean an agency which is appointed by DISCOM for project management.
23	<b>“PV System” or “SPV” or “SPV System”</b>	:	<b>“PV System” or “SPV ” or “ SPV System”</b> shall mean the Grid-tie Solar Photo-Voltaic (PV) system including the PV modules, grid-tie inverter(s), module mounting structure(s), cables and connectors, safety and earthing equipment, interconnection equipment, and inverter with remote monitoring with other components for Roof top Solar System that shall be supplied, installed, commissioned and maintained by the Empanelled Agency.
24	<b>“Qualified Bidder”</b>	:	<b>“Qualified Bidder” shall mean the</b> Bidder who shall meet all the eligibility criteria mentioned in the Tender Document and selected in the empanelment list.
25	<b>“Scheme”</b>	:	<b>“Scheme”</b> shall mean scheme for providing grid connected Solar System for Residential Consumers announced by Ministry of New and Renewable Energy Rooftop solar phase-2 guidelines as Residential Solar Rooftop Subsidy Scheme
26	<b>“System”</b>	:	<b>“System”</b> shall mean the Grid Connected Solar PV System as per Tender Document that shall be designed, supplied, installed, commissioned and maintained with all other ancillary required by the Empanelled Agency for satisfactory operation of the System.

27	<b>“Specification”</b>	:	The <b>“Specification”</b> shall mean the Tender Document forming a part of the contract along with Proforma, schedules, appendixes and all annexure Part-G of EOI Document.
28	<b>“Sub-Division”</b>	:	<b>“Sub-Division”</b> Shall mean Operation and Maintenance Sub-Division of DISCOM
29	<b>“Week”</b>	:	<b>“Week”</b> shall mean the continuous period of seven days
30	<b>“Work”</b>	:	The <b>“Work”</b> shall mean activities to Supply, Installation, testing & commissioning of the Tender Document item for which the offers are invited.
31	<b>Category-A Bidders</b>	:	‘Category-A’ bidders shall be those bidders who have experience of successful installation and Commissioning of minimum aggregate 500 KW capacity of solar rooftop/Grid connected systems in any sector viz. residential, social, industrial, commercial, government, under any Government Scheme upto the date of submission of Technical Bid
32	<b>Category-B Bidders</b>	:	‘Category-B’ bidders shall be those bidders who are new entrepreneur and / or those bidders who are not covered under Category- A and have commissioned a cumulative capacity of atleast 50 kW upto date of submission of Technical Bid

### Abbreviations

	<b>Abbreviations</b>	:	<b>Explications</b>
1	<b>AC</b>	:	Alternating Current
2	<b>ACP</b>	:	Aluminium Composite Panel
3	<b>AM</b>	:	Air Mass
4	<b>APPC</b>	:	Average Power Purchase Cost
5	<b>ASTM:</b>	:	American Society for Testing and Materials
6	<b>BIS</b>	:	Bureau of Indian Standards
7	<b>BoQ</b>	:	Bill of Quantity
8	<b>BOS</b>	:	Balance-of-System
9	<b>CEA</b>	:	Central Electricity Authority
10	<b>CERC</b>	:	Central Electricity Regulatory Commission
11	<b>CEIG</b>	:	Chief Electrical Inspector of Government
12	<b>CMC</b>	:	Comprehensive maintenance Contract for 5 years
13	<b>DC</b>	:	Direct Current
14	<b>DCDB</b>	:	Direct Current Distribution Box
15	<b>DTR</b>	:	Distribution Transformer
16	<b>DWC</b>	:	Double Walled corrugated
17	<b>EPC</b>	:	Engineering, Procurement and Commissioning
18	<b>EPF</b>	:	Employee Provident Fund
19	<b>FF</b>	:	Fill Factor
20	<b>FOR/F.O.R.</b>	:	Freight on Rail/Road
21	<b>GI</b>	:	Galvanized Iron
22	<b>GST</b>	:	Goods and Services Tax

23	<b>HP</b>	: Horse Power
24	<b>HDGI</b>	: Hot Dipped Galvanized Iron
25	<b>HDPE</b>	: High Density Polyethylene
26	<b>HFL</b>	: Highest Flood-Level
27	<b>HT</b>	: High Tension (11 KV)
28	<b>IP</b>	: Internet Protocol /Ingress Protection
29	<b>IPR</b>	: Intellectual Property Right
30	<b>IEC</b>	: International Electrotechnical Commission
31	<b>IEEE</b>	: Institute of Electrical and Electronics Engineers
32	<b>IS</b>	: Indian Standard
33	<b>Isc</b>	: Short Circuit Current
34	<b>IST</b>	: Indian Standard Time
35	<b>KV</b>	: Kilo Volt
36	<b>KW</b>	: Kilo Watt
37	<b>KWp</b>	: Kilo Watt peak
38	<b>LT</b>	: Low Tension
39	<b>IoT</b>	: Internet of Things
40	<b>MCB</b>	: Miniature Circuit Breaker
41	<b>MDAS</b>	: Meter Data Acquisition System
42	<b>MIS</b>	: Management Information System
43	<b>MMS</b>	: Module Mounting Structure
44	<b>MNRE</b>	: Ministry of New and Renewable Energy, GOI.
45	<b>MPPT</b>	: Maximum Power Point Tracker
46	<b>MW</b>	: Mega Watt
47	<b>MPPMCL</b>	: Madhya Pradesh Power Management Co Ltd
48	<b>MPERC</b>	: Madhya Pradesh Electricity Regulatory Commission
49	<b>MPPoKVVCL</b>	: Madhya Pradesh Poorva KshetraVidyutVitaran Company Limited
50	<b>MPMKVVCL</b>	: Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited
51	<b>MPPKVVCL</b>	: Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Limited
52	<b>NEC</b>	: National Electric Code
53	<b>NIT</b>	: Notice Inviting Tender
54	<b>NOCT</b>	: Normal Operating Cell Temperature
55	<b>OS</b>	: Operating System for Computer/server
56	<b>PAN</b>	: Permanent Account Number
57	<b>PCU</b>	: Power Conditioning Unit
58	<b>PID</b>	: potential-induced degradation
59	<b>POC</b>	: Proof of Concept
60	<b>PR</b>	: Performance Ratio
61	<b>PV</b>	: Photo Voltaic
62	<b>PVC</b>	: Poly vinyl chloride
63	<b>RCCB</b>	: Residual Current Circuit Breaker

64	<b>RL</b>	: Residential
65	<b>RFID</b>	: Radio Frequency Identification
66	<b>RTC</b>	: Real Time Clock
67	<b>REC</b>	: Rural Electrification Corporation, GOI
68	<b>RDBMS</b>	: Relational Data Base Management System
69	<b>SCADA</b>	: Supervisory Control And Data Acquisition
70	<b>SMB</b>	: Sub Miniature version B
71	<b>SPV</b>	: Solar Photo Voltaic
72	<b>SPD</b>	: Surge Protection Device
73	<b>SRT</b>	: Solar Roof Top
74	<b>STADD-Pro</b>	: Structural Analysis And Design Computer Program
75	<b>STC</b>	Standard Testing Condition (“STC” shall mean Standard Testing Condition for solar cells and PV modules with air mass AM1.5, irradiance 1000W/ m <sup>2</sup> , and cell temperature of 25°C.)
76	<b>TPI</b>	: Third Party Inspection
77	<b>THD</b>	: Total Harmonic Distortion
78	<b>ToU</b>	: Time of Use
79	<b>UAT</b>	: User Acceptance Test
80	<b>UV</b>	: Ultra Violet
81	<b>Vmp</b>	: Voltage at Maximum Power
82	<b>Voc</b>	: Voltage at Open Circuit
83	<b>-ve</b>	: Negative
84	<b>+ve</b>	: Positive
85	<b>W</b>	: Watt
86	<b>Wp</b>	: Watt peak
87	<b>XLPE</b>	: Cross-linked Polyethylene

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## SECTION 2: SCOPE OF WORK

Scope of work covers identification of beneficiaries, Design, supply, installation, testing, commissioning and maintenance of SPV Grid connected Rooftop Systems in Madhya Pradesh conforming to technical specification enumerated in relevant NSM/MNRE/State Govt. guidelines and amended from time to time.

Detailed scope of work is given here under:-

### 1. Work of installation of SPV grid connected Systems shall involve :

- (i) Identification and motivation of prospective beneficiaries.
- (ii) Preparation of Detailed Project Report (DPR) of the proposed Proposal of SPV Power Plant.
- (iii) Obtaining No objection certificate from concerned DISCOM for grid connectivity.
- (iv) Collection of balance cost payable by beneficiary after deducting subsidy payable by the respective DISCOM.
- (v) Entering into supply and comprehensive maintenance contract (CMC) agreements with beneficiaries. CMC shall be for five years as per Maintenance services for 5 years with free replacement warranty on spare parts against manufacturing defects for five years.
- (vi) Design, supply, storage, civil work, erection, testing and commissioning of SPV grid connected Power Plant as per schedule given at the time of allotting targets.
- (vii) The work covers Design, supply, installation, commissioning and comprehensive maintenance for FIVE years.
- (viii) Establishing “After sales service centers-nodal centers” in Bhopal/Indore/Jabalpur depending on the DISCOM-zone in which works have been executed to cater the maintenance needs of beneficiaries. Each bidder will have to appoint a single point of contact at Corporate office level of concerned Discom.
- (ix) The empaneled agency shall have freedom to work in any circle of the Discom

### 2. Project Cost

- (i) The Project cost shall include all the costs related to above Scope of work. Bidder shall quote for the entire facilities on a “single responsibility” basis such that the total Bid Price cover shall the obligations mentioned in the Bidding Documents in respect of Design, Supply, Erection, Testing and Commissioning including Warranty, Operation & Maintenance for a period of 5 years goods and services including spares required if any, during the O&M period. The Bidder has to take all permits, approvals and licenses, insurance etc., provide training and such other items and services required to complete the scope of work mentioned above.
- (ii) The price quoted is on lump sum turnkey basis including all taxes & duties applicable and the bidder is responsible for the total scope of work described as above.
- (iii) The project cost shall remain firm and fixed and shall be binding on the Successful Bidder till completion of work for payment of subsidy amount irrespective of his actual cost of execution of the project. However, in case of changes in taxation/duties imposed by central/state government, “Change in Law”



provisions can be applied. The bidder shall not be entitled to claim any additional charges, even though it may be necessary to extend the completion period for any reasons whatsoever.

- (iv) The cost shall be inclusive of all duties and taxes, insurance etc. The prices quoted by the firm shall be complete in all respect and no price variation/adjustment shall be payable.
- (v) The operation & maintenance of Solar Photo voltaic Power Plant would include warranty against wear, tear, overhauling, machine breakdown, insurance, and replacement of defective modules, invertors/ Power Conditioning Unit(PCU), spares, consumables & other parts for a period of 5 years.
- (vi) The modules shall be cleaned by the Empanelled Vendor quarterly or as and when required during entire O&M period.
- (vii) It is the responsibility of the Empanelled Vendor to provide the Remote Monitoring System facility to the Owner. Necessary hardware arrangements shall be provided by the Empanelled Vendor. Periodic data charges towards data pack and Internet/Wifi connectivity for maintaining Remote Monitoring System shall be the responsibility of Beneficiary. The Empanelled Vendor shall provide rights to respective Discoms to access the performance data of the inverter by sharing the user ID and password, as and when required to monitor the performance.
- (viii) The Project cost shall be specified by the successful Bidder's quote @ Rs/Wp (Watt peak) for each project. The project cost shall be in accordance with all terms, conditions, specifications and other conditions as mentioned in this tender document.
- (ix) The Empanelled Vendor shall be responsible and take an Insurance Policy for transit- cum- storage-cum-erection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materials at site, erection, testing and commissioning. The Empanelled Vendor shall also take appropriate insurance during O&M period, if required, on their own cost.
- (x) The Empanelled Vendor shall also take insurance for Third Party Liability covering loss of human life, engineers and work men and also covering the risks of damage to the third party / material/ equipment/ properties during execution of the Contract. Before commencement of the work, the Empanelled Vendor will ensure that all its employees and representatives are covered by suitable insurance against any damage, loss, injury or death arising out of the execution of the work or in carrying out the Contract. Liquidation, Death, Bankruptcy etc., shall be the responsibility of Empanelled Vendor.
- (xi) All the equipments installed shall be as per technical specifications given in the Bid document but if due to site conditions or any other reason, the beneficiary requires some additional civil work/arrangement/ equipments and the bidder agrees to provide the same, it shall be clearly mentioned in the net metering application. However, the subsidy shall be on the basis of SPV system capacity only.

### 3. Net metering of Power :

Net metering is the concept which records difference between export of generated energy and import of energy from DISCOM grid during billing cycle. The SPV power consumer shall pay for the net energy in a billing period as per applicable retail supply tariff as determined by regulatory commission, if the supplied energy by the Discom is more than the injected



energy by the solar PV sources of the consumer(s).

Madhya Pradesh Electricity Regulation Commission (Grid Connected Net Metering) Regulations, 2015 and its amendments/ substitutions enforced from time to time.. The SPV Power generators/ beneficiaries going for installation of SPV Power Plants under this scheme will also be governed by the rules & regulations of Net Metering scheme as notified by MPERC and amended time to time.

The Empanelled Vendor shall bear the entire cost of metering arrangement and its testing. The application fee shall be paid by beneficiary as per MPERC Grid Connected Net Metering Regulations, 2015. The installation of meters including CTs & PTs, wherever applicable, shall be carried out by the Empanelled Vendor as per the procedures in vogue of the Discom(s) with their permission.

The phase connectivity for SPV projects shall be based on the capacity

Upto 3 KW	-	Single Phase
Above 3 KW	-	Three Phase

#### 4. Plant performance evaluation:

- The respective DISCOM where the SPV project has been installed shall monitor the performance of the grid connected SPV Power Plants without battery back up as per feasible subject to availability of proper measuring equipment being in vogue.
- At the time of commissioning of the project, the vendor shall have to demonstrate that the said project delivers Capacity Utilization Factor (“CUF”) of at least 15%, adjusted for seasonality as tabulated below, for one (1) day at the time of Commissioning of the Grid Connected.

Month	kWh generation in 1 day per kWp system
January	3.71
February	4.14
March	4.33
April	4.27
May	3.99
June	3.3
July	2.56
August	2.33
September	3.21
October	3.89
November	3.9
December	3.56

- Contractor shall ensure that all Projects with installed capacity 5 kWp and above are RMS enabled. The data from such RMS enabled Projects would be monitored or analysed remotely by Nodal Agency, independently or at its Centralized Monitoring Centre, to ensure desired level of performance. The Contractor shall

ensure and shall have no objection to provide access to RMS system for data acquisition and monitoring the performance of Project(s) by Nodal Agency. The Contractor shall support Nodal Agency in establishing technical handshake between RMS system and the Centralized Monitoring Centre being established by Nodal Agency. The Contractor shall ensure that the connectivity of the Project with the Centralized Monitoring Centre of Nodal Agency is uninterrupted at all times during O&M period and shall make all necessary arrangements for the same. The Contractor must ensure the functionality of the RMS system for the duration of the O&M period. Nodal Agency or its authorized agency reserves right to validate the authenticity of such data for which Contractor shall extend full access and its cooperation.

- (iv) Contractor shall ensure that all Projects with capacity less than 5 kWp for Grid-connected system and of any capacity for off-grid system shall have a data logger system in place at PCU to record various parameters on half hourly basis and store the same for at least 1 (one) year. CUF for such Projects shall be computed on the basis of data retrieved from the data logger of PCU. Minimum CUF of 15% should be maintained for a period of 5 years for release of performance related security deposit. The CUF will be measured every quarter and penalty will be applicable on the yearly CUF. For CUF less than 15%, the penalty can be imposed for the loss of energy generation @ APPC of DISCOM for that year subject to appropriate exemption in event of force majeure conditions. The empaneled vendor shall be required to rectify the faults in the PV system within 1 week of such failure, after which, one more inspection shall be carried out to verify the rectification. The Empanelled Vendor should send the periodic plant output details to the respective DISCOM for ensuring the CUF. CUF will be evaluated considering 100% grid availability. If CUF is observed less than 15%, penalty during execution period shall be deducted from the Subsidy to be released. Thereafter, it shall be deposited by vendor during O&M period, else it shall be adjusted from performance security.
- (v) The CUF for only grid connected systems shall be calculated, allowing derating of output of SPV modules of not more than 1% per year, implying shortfall in CUF of not be more than 0.15% per year. This is in accordance with the criteria of degradation of SPV modules, specified in current MNRE guidelines.

## 5. Eligible Beneficiary for SPV Grid connected Systems:

Type of residential sector	CFA (as percentage of benchmark cost or cost discovered through competitive process whichever is lower)
Residential sector (maximum up to 3 kW capacity)	40 % of benchmark cost <sup>1</sup>
Residential sector (above 3 kW capacity and up to 10 kW capacity) <sup>1</sup>	40 % up to 3 KW Plus 20% for RTS system above 3 kW and up to 10 kW
Group Housing Societies/Residential Welfare Associations (GHS/RWA) etc.	20%

<sup>1</sup>The residential sector users may install RTS plant of even higher capacity as provisioned by respective State electricity regulations; however, the CFA will be limited up to 10 kWp capacity of RTS plant.

for common facilities up to 500 kWp (@ 10 kWp per house), with the upper limit being inclusive of individual rooftop plants already installed by individual residents in that GHS/RWA at the time of installation of RTS for common activity.	
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MNRE vide its notification No. 318/33/2019-Grid Connected Rooftop dated 16/7/2019 have decided the following bench mark cost which is inclusive of total system cost and its installation, commissioning, transportation, insurance, five years AMC/CMC and applicable fees and taxes.

S. No.	Capacity	Bench Mark Cost (Rs./Wp)
1	Above 1 kW and upto 10 kW	54
2	Above 10 kW and upto 100 kW	48
3	Above 100 kW and upto 500 kW	45

The details of eligible beneficiary buildings, admissible for CFA under MNRE Rooftop Program and CFA amount will be as per MNRE Office Memorandum No. 318/331/2017-Grid Connected Rooftop dated 20.08.2019.

#### 6. Project Allocation And Sanction :

- (i) The identification of the projects (roof tops) at the time of bidding is not mandatory. The Bidders, however, in their own interest are advised to make a preliminary survey of availability of rooftops in the city/ cities mentioned under scope of work.
- (ii) The Letter of Allocation shall be issued to L1 bidder for the allocated capacity as per Tender condition. The other successful Bidders selected shall be issued Letter of Intent (LOI) to give consent to work on L-1 rates. Within 15 days of issue of Letter of Intent, the bidder has to affirm to the L1 rates and allocated capacities. The bidders who affirm to the LOI will be issued Letter of Allocation by MPMKVCL indicating the allocated capacity & Project Cost.

The respective Discom shall issue LOA (Letter of Award) and the bidder shall execute Agreement and submit SDs to respective Discoms within 15 days for allocated capacities.

**7. Project Time schedule: -****(a) Individual Solar Roof Top project**

The period for installation & commissioning of SPV system is 3 months from the date of issue of sanction letter for Net Metering of individual project.

**(b) Time Schedule for commissioning of total allocated capacity:**

The Empanelled Agency must meet key milestones as given below:

<b>Period from date of issue of LOA</b>	<b>Milestone of capacity installation &amp; sanction</b>
Within 3 months	20 %
Within 7 months	50 % + project sanction of remaining capacity
Within 11 months	100 %

The penalty for non achievement of milestone shall be as per Section 9, Clause 16.

**8. Subsidy Pattern:**

As per guidelines of Ministry of New and Renewable Energy, GOI is providing 40% / 20% capital subsidy under SPV Roof Top Programme to the buildings as detailed at clause :5 of section 2. The minimum capacity of rooftop SPV Power Plant to be installed shall be more than 1kW and upto 500 kW.

Note:

- (i) All provisions as amended by MNRE, GoI from time to time in respect of subsidy, norms of admissible beneficiary and allowable capacity of PV systems shall be applicable to this scheme accordingly.
- (ii) Subsidy will be 40% / 20% of project cost arrived as per MNRE Guidelines. Remaining cost will be borne by beneficiary.

**7. Model of SPV Systems and tentative Quantities**

Installation of grid connected PV Power Plants {without Battery Back up} for residential consumers will only be considered under this programme.

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## SECTION 3: EXPERIENCE AND COMPETENCE

The Bidder shall have Electrical Contractor License of any State across India.

Following are the required for considering responsiveness of the bidders. To substantiate this, necessary documents, certificates shall have to be attached with the proposal

### 1. Category A bidder:

- (i) The Bidder should be either a body incorporated in India under the Companies Act, 1956 or Companies Act, 2013 including any amendment thereto and engaged in the business of Solar Power/Renewable Energy.

OR

The Bidder should be either a body incorporated in India under the Limited Liability Partnership Act 2008; A subset of Companies Act, 2003 and engaged in the business of Solar Power/Renewable Energy.

A copy of certificate of Incorporation should be furnished along with the bid in support of above.

OR

The Bidder should be a Firm registered under Partnership Act in India. A copy of certificate of Form-G/Copy of Registered Partnership Deed should be furnished along with the bid in support of above.

OR

The Bidder should be a Firm registered as Sole Proprietor under Shop Act. A copy of certificate of GST/TIN Number should be furnished along with the bid in support of above.

- (ii) The bidder should have cumulative experience of executing  $\geq 500\text{kWp}$  Grid/off-grid connected SPV Power Plants Installations in India up to date of submission of bid. The details of projects executed during period mentioned above should be listed in Annexure-3(A). A certificate issued by the SNA/ Govt. Organisation/SECI/ towards the satisfactory installation and functioning of the power plants to be furnished by the bidder. SPV power plants include, ground mounted, rooftop solar and solar-pumps. For private clients copy of the grid connectivity letter from the Discom should be appended with experience certificate.

### 2. Category-B :

- (i) The Bidder should be either a body incorporated in India under the Companies Act, 1956 or Companies Act, 2013 including any amendment thereto and framed for business of Solar Power/Renewable Energy.

A copy of certificate of Incorporation should be furnished along with the bid in support of above.

OR

The Bidder should be either a body incorporated in India under the Limited Liability Partnership Act 2008; A subset of Companies Act, 2003 and engaged in the business of Solar Power/Renewable Energy.

A copy of certificate of Incorporation should be furnished along with the bid in support of above.

OR

The Bidder should be a Firm registered under Partnership Act in India.

A copy of certificate of Form-G/Copy of Registered Partnership Deed should be furnished along with the bid in support of above.

OR

The Bidder should be a Firm registered as Sole Proprietor under Shop Act. A copy of certificate of GST/TIN Number should be furnished along with the bid in support of above.

- (iii) The bidder should have cumulative experience of executing  $\geq 50\text{kWp}$  Grid connected SPV Power Plants Installations in India up to date of submission of bid. The details of projects executed during period mentioned above should be listed in Annexure-3(A). A certificate issued by the SNA/ Govt. Organisation/SECI/Project Owner towards the satisfactory installation and functioning of the power plants to be furnished by the bidder. . SPV power plants include, ground mounted, rooftop solar and solar-pumps. For private clients copy of the grid connectivity letter from the Discom should be appended with experience certificate.

## SECTION – 4 FINANCIAL CAPABILITY

Following are required for considering responsiveness regarding financial capability of the bidders:

### 1. Category A bidder:

The bidder has financial capability to take up the proposed work to be supported by Audited balance sheet for any three years from 2016-17, 2017-18, 2018-19 and 2019-20 (in case of 2019-20, provisional balance sheet along with CA certificate for 6 months period should be attached) and there should be Minimum Average Annual Turnover of Rs. 1.00 Crore. It is further clarified that the total turnover of any three years {2016-17, 2017-18, 2018-19 and 2019-20} should be Rs. 3.00 Crores or more.

Additionally, the Category A bidders should have Minimum working capital of 50 lakhs.

### 2. Category B bidder:

No financial turnover limit is mandatory for Category-B bidders.

**Additionally, the Category B bidders** should have Minimum working capital of 10 lakhs.

For working capital requirement both category bidders can:

Provide The audited balance sheet of last financial year, working capital shall be (current assets minus current liability);

or

submit Bank Utilization Certificate (fund based) showing balance fund (sanctioned cash credit limit/Overdraft limit – Utilization as on date), the Bank Certificate shall not be more than 3 months old from the date of submission of bid by bidder; the bank certificate should preferably be in the following format.

Sanctioned Cash Credit Limit/Overdraft limit	Utilization as on date	Balance as on date

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## SECTION – 5 PRICE SCHEDULE

The bidder shall quote their rates / costs for all the three DISCOMs for Design, supply, installation, commissioning including FIVE years free comprehensive maintenance including all taxes etc. in format as per Annexure-4 online only. The rate quote should be upto two decimal places.

The bidder has to execute a Annual Comprehensive maintenance Contract for a period of five years with the beneficiary. Maintenance services for 5 years with free replacement warranty on spare parts against manufacturing defects for five years.

**Note:**

- (i) It will be mandatory for Bidders under Category A to quote their prices for all the four Slabs (A,B,C& D).
- (ii) The Category-B firms are eligible to execute the Projects upto 10 kW capacity only. Category-B bidders will be allowed to quote price bids for slab-A and B only for all the DISCOMs. If such firms submit their offers for any other slabs, such offers will not be considered for Evaluation.
- (iii) Both category- A & B bidders shall have the option to quote the price for the choice of their Discom/Two Discom or for all the three Discoms.
- (iv) Bidder may quote for more than one Discom/Lot. In case they are submitting their offer for more than One Discom/Lot they have to submit the required EMD for each Discom/Lot separately.

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## SECTION – 6

## PART - A

## Pre-Requisites and Proposal Evaluation

## 1. Pre-requisites:

Following are the pre-requisites for the bidder to be considered responsive to this tender:

Part A: Category A bidders	
i.	<p>The Bidder should be either a body incorporated in India under the Companies Act, 1956 or Companies Act, 2013 including any amendment thereto and engaged in the business of Solar Power/Renewable Energy.</p> <p>OR</p> <p>The Bidder should be either a body incorporated in India under the Limited Liability Partnership Act 2008; A subset of Companies Act, 2003 and engaged in the business of Solar Power/Renewable Energy.</p> <p>A copy of certificate of Incorporation should be furnished along with the bid in support of above.</p> <p>OR</p> <p>The Bidder should be a Firm registered under Partnership Act in India.</p> <p>A copy of certificate of Form-G/Copy of Registered Partnership Deed should be furnished along with the bid in support of above.</p> <p>OR</p> <p>The Bidder should be a Firm registered as Sole Proprietor under Shop Act.</p> <p>A copy of certificate of GST/TIN Number should be furnished along with the bid in support of above.</p>
ii.	<p>The bidder has financial capability to take up the proposed work to be supported by Audited balance sheet for any three years from 2016-17, 2017-18, 2018-19 and 2019-20 (in case of 2019-20, provisional balance sheet along with CA certificate should be attached) and there should be Minimum Average Annual Turnover of Rs. 1.00 Crore in last three years. It is further clarified that the total turnover of any three years {2016-17, 2017-18, 2018-19 and 2019-20} should be Rs. 3.00 Crores or more. Additionally, the Category A bidders should have Minimum working capital of 50 lakhs.</p> <p>Please refer Section-4 of this Bid.</p>
iii.	The bidder should have cumulative experience of executing $\geq 500\text{kWp}$ Grid

	connected/off-grid SPV Power Plants Installations in India up to date of submission of bid. The details of projects executed during period mentioned above should be listed in Annexure-3(A). A certificate issued by the SNA/ Govt. Organisation/SECI/ towards the satisfactory installation and functioning of the power plants to be furnished by the bidder. For private clients copy of the grid connectivity letter from the Discom should be appended with experience certificate.
iv.	Details of “After Sales & Service Centre” existing and proposed to be set up in the State of Madhya Pradesh. Refer Annexure 3(B) & 3(C).
v.	The bidder should have valid GST and PAN registration certificate. Registration document (s) to be provided by the bidder where it is presently operational/Company is registered (Copy to be furnished in support).
vi.	The Bidder shall have Electrical Contractor License of any State across India.

Part-B: Category B bidders	
i.	<p>The Bidder should be either a body incorporated in India under the Companies Act, 1956 or Companies Act, 2013 including any amendment thereto and framed for business of Solar Power/Renewable Energy. A copy of certificate of Incorporation should be furnished along with the bid in support of above</p> <p>OR</p> <p>The Bidder should be either a body incorporated in India under the Limited Liability Partnership Act 2008; A subset of Companies Act, 2003 and engaged in the business of Solar Power/Renewable Energy. A copy of certificate of Incorporation should be furnished along with the bid in support of above.</p> <p>OR</p> <p>The Bidder should be a Firm registered under Partnership Act in India. A copy of certificate of Form-G/Copy of Registered Partnership Deed should be furnished along with the bid in support of above.</p> <p>OR</p> <p>The Bidder should be a Firm registered as Sole Proprietor under Shop Act. A copy of certificate of GST/TIN Number should be furnished along with the bid in support of above.</p>
ii.	Category B bidders should have Minimum working capital of 10 lakhs. Please refer Section-4 of this Bid.
iii.	The bidder should have cumulative experience of executing $\geq 50\text{kWp}$ Grid connected/off-grid SPV Power Plants Installations in India up to date of

	submission of bid The details of projects executed during period mentioned above should be listed in Annexure-3(A). A certificate issued by the SNA/ Govt. Organisation/SECI/ towards the satisfactory installation and functioning of the power plants to be furnished by the bidder. For private clients copy of the grid connectivity letter from the Discom should be appended with experience certificate.
iv.	Details of “After Sales &Service Centre” existing and proposed to be set up in the State of Madhya Pradesh. Refer Annexure 3(B) & 3(C).
v.	The bidder should have valid GST and PAN registration certificate. Registration document (s) to be provided by the bidder where it is presently operational/Company is registered (Copy to be furnished in support).
vi.	The Bidder shall have Electrical Contractor License of any State across India.

Note:

- (i) The bidder must fill up above information clearly in enclosed sheet and attach all required documents (self attested ) in support as at a glance Techno- Commercial qualification details.
- (ii) If supporting documents (self attested) are not attached for each eligible criteria above, the bid shall be rejected without further reference.
- (iii) If the bidder do not have Electrical Contractor license of any State across India an Undertaking to obtain and submit while executing the Agreement should be submitted as per Annexure-19.

## 2. Submission :

- (i) First the Cover-A containing documentary evidence of EMD, tender document fee and e-procurement fee shall be opened and checked.
- (ii) Then Cover-B (Technical bid) shall be opened of those bidders who have submitted EMD (or EMD exception certificate), Tender Processing Fee and e-procurement fee.
- (iii) The evaluation of techno- commercial bid will be done & price bids (Cover-C) through e-procurement only of those bidders will be opened, who are found technically eligible and qualified.
- (iv) The basis of evaluation shall be the cost/rate quoted in the Price Schedule Annexure-4. To further clarify, cost of supply, installation & commissioning along with maintenance and warranty and all applicable taxes shall be summed up for comparison and evaluation. Bidders are required to quote rate/cost on FIRM basis and no price variation on any account shall be considered.

**PART – B**

**Proposal Evaluation**  
**Check list for evaluation**

The bidder shall declare himself as Category-A or Category-B Firm as per pre-requisite requirement of this tender and then submit the details of their credentials as under:

**Cover A****Documentary evidence of the following**

S.No.	Documentary evidence of the following:
1	Cost of Tender document
2	e-proc Charges:
3	EMD

**Technical Bid (Cover B): The bidder should upload (in Cover-B online) duly signed complete bid document, required certificates and information as instructed**

S. No.	Details Required	Details of Attachment	Page No. Of self attested attached document
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<u>1</u>	<u>As per Section-6(Part-A): A(i) or B (i) (As applicable)</u>		
<u>2</u>	<u>As per Section-6(Part-A): A(ii) or B (ii) (As applicable)</u>		
<u>3</u>	<u>As per Section-6(Part-A): A(iii) or B(iii) (as applicable)</u>		
<u>4</u>	<u>Details of „After Sales &amp; Service Centre“ existing and proposed to be set up in the State of Madhya Pradesh. Refer Annexure 3(B) &amp; 3(C)</u>		
<u>5.1</u>	<u>The bidder should have valid GST and PAN registration certificate. Registration document (s) to be provided by the bidder where it is presently operational/Company is registered.</u> <u>A. Copy to be furnished in support.</u> <u>B. Tax clearance certificate by the authority concerned.</u>		

S. No.	Details Required	Details of Attachment	Page No. Of self attested attached document
1	2	3	4
5.2	<u>The Bidder shall have Electrical Contractor License of any State across India.</u>		
6	<u>Duly signed Bid Documents</u> <u>(on Each and every page in confirmation of acceptance of Terms and Condition of Bid)</u>		
7	<u>Authorisation Certificate</u> <u>(If bid is submitting by any authorised person/firm/agent on behalf of original bidder.)</u>		
8	<u>Others</u> <u>Certificates (if required) in support of clarification of technical requirements.</u>		
9	<u>Letter of Undertaking to execute a maximum capacity of 2.7 MW for Category-A bidders and 900 kW for Category-B bidders</u>		
10	<u>Annexure-11A,11-B and 11-C</u>		
11	<u>Annexure-19</u>		

**Note:-**

- (i) The information in the above table should be filled properly.
- (ii) If any document submitted in support of above parameters found false, the tender will be disqualified and EMD and security Deposit shall be forfeited and bidder shall be blacklisted.
- (iii) Cutting should be verified by the signature with seal on every attempt and overwriting not allowed.
- (iv) No hard Copies documents have to be submitted.

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## SECTION – 7 COMPLETION PERIOD

The successful bidder issued the LOA will have to complete the allocated capacity within 11 months from the date of issue of LOA. The successful bidder shall submit bills to respective DISCOM's Project Managers/ Officers on monthly basis along with required papers and obtain receipt of the same from the DISCOM office. The respective DISCOM will be informed about this along with receipt issued & list of beneficiaries within next 7 days (i.e. 7th day of every month).

Please note that the extension of time period for implementation of the programme is solely on the discretion of the MDs of the respective DISCOMs.

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## SECTION – 8 INSTRUCTIONS TO TENDERERS

1. Bidders are required to furnish all information and documents as called for in this Document in English Language. Any printed literature furnished by the proposer may be in another language, provided that this literature is accompanied by an English translation, in which case, for the purpose of interpretation of the document, the English version will govern.
2. Consortium/Joint Venture proposals shall be not be acceptable for any the bidder category
3. Bidder can use the technical and financial strength of its Parent Company/ Affiliate's to fulfill the Technical and/or Financial Eligibility criteria. In such case, Bidders shall submit an Undertaking from the Parent Company as per Annexure-17 and also furnish a certificate of relationship of Parent Company or Affiliate with the Bidder as per Annexure-16, Company Secretary certificate towards shareholding pattern of the Parent Company and the Bidder along with a Board resolution from the Parent Company. It is necessary to fulfill qualification criterion (Technical and/or financial) individually either by bidder or its parent company / affiliates.
4. The Proposal received after the closing date and time shall not be considered. The date of opening of Bids for a particular lot/lots shall be extended if sufficient offers are not received for the lot/lots.
5. The documents shall be properly checked and signed before uploading for submission of proposals. Please refer Annexure-9 for instructions on using the online tender submission portal.
6. Transfer of document purchased by one party to another is not permissible.
7. Intending bidders are required to carefully go through the instructions included in the document and furnish complete information, necessary documents and schedules.
8. All costs towards site visit and submission of documents etc. shall be borne by the applicants themselves.
9. The required amount of EMD shall be accepted through online payment only as per the clause No. 4; Submission of Bids of the 'Guidelines to Bidders for Implementation of E-Procurement System & Online Bid Submission'. The Bidders are required to invariably upload the valid documentary evidence of submission of online EMD (or EMD Exemption Certificate if applicable) in Cover-A. **The following are exempted from payment of EMD:**
  - (i) SSI Units permanently registered with DIC/NSIC/ UDHYOG ADHAR/MSME shall be exempted from payment of EMD .Their registration certificate should be valid on the date of opening of tender. Furthermore, start-ups registered with Department of Industrial Policy & Promotion (DIPP) will also be exempted from providing EMD.
  - (ii) The photocopy of the NSIC/SSI Registration Certificate for the tendered items duly notarized/attested by G.M./Manager, DIC of the area/ any officer of Discom not below the rank of E.E. shall be furnished with the offer. In case of unattested/un-notarized copy, the original certificate should be produced at the time of tender opening for verification.

10. The EMD may be forfeited if :-

- (i) If a bidder withdraws or revokes its bid during the period of bid validity specified by the bidder;
- (ii) If a bidder modifies its bid in any manner after its opening but before the validity of the bid expires;
- (iii) If a bidder does not accept the arithmetical corrections of its bid price;
- (iv) In the case of successful bidder, if the bidder fails to:  
-furnish the performance security within the prescribed time.
- (v) In case, the bidder withdraws his offer during the validity period, after placement of Letter of allocation, the EMD shall be forfeited
- (vi) In case, the L-1 bidder in category-A refuses to accept the allocated capacity at the discovered L-1 price

11. Applicants are informed that MPMKVVCL is neither under any obligation to select any applicant, nor to give any reason for either qualifying or disqualifying any applicant. MPMKVVCL is also not under any obligation to proceed with the programme or any part thereof.

12. At any time prior to opening of price proposals, MPMKVVCL either at their own initiative or in response to clarifications requested by a prospective tenderer may modify tender by issuing an amendment. Such amendment(s) shall be up loaded on e-proc site.

**13. Pre-Bid Meeting**

The Company shall hold a pre-bid meeting of bidders in the Corporate Office of the Company (MPMKVVCo.Ltd.) at Nishtha Parisar, Bijlee Nagar Colony, Govindpura, Bhopal-462023 to clarify various clauses of the bid documents to ensure uniformity in understanding the bid documents. Bidders are advised to attend the Pre-Bid Meeting so as to clear all ambiguities and doubts and point to any mistake or shortcomings which might be visible in the Tender. The Company reserves the right to change the clauses as emerging after pre-bid conference or as per its solo discretion and if attendees and MPMKVVCL both are in consensus on same. Details of any doubt(s) about instant Tender Specification and/or required clarification/suggestion/modification in any of the terms & conditions and/or the specifications etc. must be sent sufficiently in advance to the CGM (Proc.) (preferably) through e-mail or through post to [cgmproccz@gmail.com](mailto:cgmproccz@gmail.com) or [jlproc.1n@gmail.com](mailto:jlproc.1n@gmail.com) so as to reach at least two days before the scheduled date of pre-bid meeting to enable this office to provide necessary clarification/modification during pre-bid meeting.

The Company also reserves the right to insert new clauses or post amendments to Tender Specification etc. The changes shall be notified through addendum/corrigendum posted on Company website and e-procurement Govt. website for information of all concerned. Bidders may therefore regularly visit the websites stated until the actual Tender opening. MPMKVVCL will not be responsible if some prospective bidder misses any Amendment/ Addendum/ Corrigendum/ Due date extension related to the Tender. Hence frequent visit to MPMKVVCL website is again emphasised.

**14. Amendment in Specifications: -**

The Implementing agency may revise or amend the specification and drawings, prior to the date notified for submission of Technical Bid of tender. Such revision/ amendment, if any, will be communicated to all those who have bought the tender documents as Amendment/ Addendum to the invitation of Tender.

**15. Debarred Entities: -**

Offers of those bidders whose work have been terminated or who have been debarred for future business with our company/other DISCOMs of MP, may be summarily rejected.

**16. Mistakes in Bids: -**

Rates should be quoted in both; figures and words. In case of ambiguity between rates in figures and words, lower of the two/beneficial to the Implementing agency shall be considered. Such offers can also be rejected.

**17. Printed Terms and Conditions in Bids: -**

Empanelled agency's printed terms and conditions will not be considered as forming part of the tender under any circumstances whatsoever.

**18. Incomplete Bids: -**

Bid which is incomplete, or obscure is liable for rejection.

**19. Ambiguities in Conditions of Bids: -**

In case of ambiguous or self-contradictory Terms/Conditions mentioned in the bid, interpretation as may be advantageous to the Implementing agency shall be taken without any reference to the tender.

**20. Language of Bids: -**

All tenders should be made in English only.

**21. Canvassing of Bids: -**

Tenders shall be deemed to be under consideration, after opening of Tender/ bid, till placement of order. During this period, the bidders or their authorized representatives or other interested parties are advised strongly, in their own interest, to refrain from contacting by any means any of the Implementing agency's personnel or Representative, on matters relating to tender under process.

**22. Acceptance of Part/Whole Bids-Rights thereof: -**

Implementing agency reserves the right to accept/reject wholly or partly any tender without assigning any reason whatsoever. The Implementing agency in this regard shall not entertain any correspondence.

**23. Filling of Questionnaire/Schedules: -**

All the Questionnaire / Schedules along with specification are enclosed for technical/commercial terms & conditions. It is compulsory on the part of the bidder to furnish all details as sought in these. In case, these are not filled in and enclosed with the offer, the Bid will be rejected.

#### **24. Deviations from Terms & Conditions**

Offers with deviations in the Terms of payment, security deposit and performance guarantee are liable to be rejected outrightly.

#### **25. Authorization/Local Representative**

Only authorized representative, possessing necessary authority letter (on Rs.50/- non judicial stamp paper) from the bidder/empanelled agency who have participated in the tender shall be allowed to attend Pre Bid Meeting Tender opening and further submission/collection of documents in the event of order.

#### **26. Change of Quantity: -**

The quantity indicated is tentative and Implementing agency reserves the right to change the quantities of any or all items to the any extent for award of order/contract, as may be necessary, based on Implementing agency's judgment/requirement. No correspondence shall be entertained into, neither discussed regarding change in quantity, nor any reason will be assigned thereof.

#### **27. SNAP BIDDING**

- (i) In case the MPMKVVCL opts for snap bidding, then all the initial Price Bids shall be discarded by the MPMKVVCL and shall invite all the bidders, who were technically qualified, to submit the new Price Bids as per terms and conditions of the bidding document. The timeline for submission and price bid opening of such price bids shall be intimated separately to all such Bidders by MPMKVVCL. Bidders submitting new Price Bids electronically shall follow the electronic bid submission procedures specified in the bid document for resubmission of Price Bids.
  - (ii) The quoted price in the Price bid shall not be allowed to be increased above the L-1 rates. If any bidder bids above the lowest evaluated price during the initial bidding, his bid shall be treated as non-responsive and bidder shall not be considered for award.
  - (iii) In case any of the invited technically qualified bidder does not submit new Price Bid during the snap bidding then he shall not be considered for any further evaluation by the MPMKVVCL.
  - (iv) Re-submitted new Price bids shall be again evaluated by the Purchaser as per terms and conditions of the bidding document. The Purchaser shall evaluate the price bids and derive the lowest evaluated bid (L1). However, in case, even after submission of new price bids by the bidders, the Purchaser has right to reject the lowest Evaluated Bid Price. If the bid is rejected by the purchaser then the entire bidding process shall be annulled.
28. The proposals as submitted shall invariably indicate that proposal is firm and that proposals shall remain valid and open for a period of not less than six months from the date of opening.
29. After opening of proposals and till final selection of successful bidders(s) no correspondence of any type will be entertained, unless called for by MPMKVVCL. Any type of uncalled for clarifications on prices and or rebates shall not be accepted.

30. Any deviation from any clause of this document must be properly spelt out in a deviation statement to be submitted along with the proposal, giving details of page number and clause number and detailing the deviation. MPMKVVCL reserves the right to accept or reject any deviation or modify the relevant clause of the document to the extent required by the deviation. Deviation statements in the prescribed Performa (Annexure-5) must be attached with the proposal.
31. **Rejection :** MPMKVVCL will review the proposals to determine whether the proposals are substantially responsive to the requirement of this document. Proposals considered non-responsive are liable for rejection. MPMKVVCL shall take up detailed evaluation of the responsive proposals only.
32. MPMKVVCL attaches great importance to maintenance of the systems as it is felt that without proper maintenance after installation of system, consumers may be deprived of the benefits of electricity. To achieve this objective successful bidder shall establish after-sales service network in the state of Madhya Pradesh. The empaneled vendor has to establish a nodal office in the city of Bhopal/ Indore/ Jabalpur depending on the DISCOM areas where works have been conducted. Successful bidders may join forces and establish the nodal office with other vendors to reduce cost.
33. Empanelled Vendor shall provide a guarantee card and operation and maintenance manual in English or Hindi script to each beneficiary. Beneficiaries shall also be educated through brochures about do's & don't on the system. The details of after sales service centres along with telephone numbers & contact persons of firm & details of respective DISCOM offices in whose area the SPV system has been installed, address, telephone numbers provided to each beneficiary.
34. It may be carefully noted that maintenance of SPV Systems includes maintenance of all items including all accessories. Complete SPV systems shall bear a warranty for a minimum period of 5 years and solar modules shall have warranty for minimum 25 years against manufacturing defects and performance. Bidders shall have at least one no. of district where there is an installation of system and adequately trained staff available at service centres for repair and maintenance of Solar PV Systems. It shall be the responsibility of successful bidder to give required service as and when required to the beneficiary. Bidders will ensure that necessary spares are always available with their service centres to provide necessary after sales service to the customers during the warranty period.
35. The bidder must quote the prices strictly in the manner as indicated in the price schedule, failing which proposal is liable for rejection.
36. The bidder should sign the proposal form on each page. Each and every paper enclosed must be given a page no. like 1,2,3,..... etc. & a bid summary must be enclosed along with covering letter on letter Head of firm.
37. Successful bidder will be required to enter into an agreement with submission of required Security deposit amount for each Discom separately in the prescribed format (Annexure-7) within scheduled timeline as described in work order/LOA. In the event of failure of

bidder the full earnest money deposited can be stand forfeited.

38. The duration of empanelment is one year from signing of the agreement with the successful bidder.

SIGNATURE OF AUTHORISED  
SIGNATORY WITH SEAL

## SECTION – 9 TERMS & CONDITIONS

### THE WORK OF SUPPLY & INSTALLATION COMMISSIONING & COMPREHENSIVE MAINTENANCE FOR FIVE YEARS OF GRID CONNECTED SPV SYSTEMS

1. Intending bidder shall have to deposit Tender Cost, e-procurement portal charges, earnest money deposit (Exemption certificate, if applicable) through online payment without which tender will not be considered.
2. The required amount of EMD shall be accepted through online payment only as per the clause No. 4; Submission of Bids of the 'Guidelines to Bidders for Implementation of E-Procurement System & Online Bid Submission'. The EMD validity shall be up to 180 days from the next day of the final bid submission date i.e. bid deadline and with a claim period of another 30 days. The Bidders are required to invariably upload the valid documentary evidence of submission of online EMD (or EMD Exemption Certificate if applicable) in Cover-A.
3. The Earnest Money will be refunded to the unsuccessful only after finalisation of the proposals and agreements with successful bidders. In case of successful bidders the EMD will be returned post submission of the security deposit as per clause 4 of section 9. The successful bidder will have to provide MPMKVCL with letter from the respective DISCOMs conforming receipt of the security deposit as per clause 4 of section 9.
4. The cost of project shall be determined by multiplying the weighted sum of the L1 prices (for A Category) with the capacity allotted.
5. **Security Deposit:** The successful bidder shall be required to furnish security deposit @ 5% of the total project cost against order value to the respective DISCOM proportionate to the DISCOM-wise allocated capacity at the time of Letter of Award and Signing of Agreement with the respective DISCOM. The total project cost will be calculated based on quantity allocated and discovered slabwise L-1 rates.

The security deposit amount, should be deposited in the form of Bank guarantee/FDR(pledged in the name of concerned Discom) which is valid for 18 months at the time of execution of agreement. Further it should be revised according to further allocation of work/targets also. The Security Deposit shall be released to the successful Bidder(s) within three (3) months of Completion of Allocated Capacity. In case the milestones are not achieved as per clause 7.b of section 2 of this tender document, the Security Deposit will be forfeited as per clause 16.a of section 9 of this tender document. Please note that in case it is found that the bidder is in violation of the Domestic Content Requirement published by MNRE/any other competent authority, the entire security deposit of the bidder will be forfeited in addition to other conditions specified by MNRE/any other competent authority from time to time.

6. **Performance Security:** Successful bidder will have to provide a performance security of 5% of total project cost, this amount deducted from the subsidy payment and will be retained with the respective DISCOM in whose area the system has been installed upto the warrantee period.

After completion of total work under this contract, the total requirement of 5% of cost of projects as Performance Security will be calculated, if the Empanelled Vendor submit this required Performance Security in the form of Bank guarantee/FDR (pledged in the name of concerned Discom) of RBI Scheduled banks valid for 66 months from date of completion of project, the amount with the respective DISCOM as Performance Security



deducted from payment will be released to the Empanelled Vendor firm after formalities to release of deducted amount as per provisions of bid. The Performance BG with validity period of one year shall also be allowed but the bidders shall ensure their timely renewal from time to time for the total period of 66 months from the date of completion of project.

7. At any time or at the end of agreement cost of damaged items not got repaired as per norms and laps of services during warranty period reported as default will be deducted from performance security on risk and cost basis.
8. Acceptance of the proposal(s) will rest with the Managing Director, MPMKVVCL or the agency appointed by MPMKVVCL/ MPPMCL who does not bind himself to accept the lowest offer and may reject any proposal without assigning any reasons thereof.
9. The rates quoted for supply of SPV systems must be firm and fixed, FOR site(s) as per prescribed format.

#### **10. Payment Terms:**

- (i) The payment of subsidy/balance system cost for supply of SPV systems shall be released after receipt of funds under the programme from MNRE, GoI after submission of following documents duly verified by Project Manager/officer, of the respective DISCOM in whose area the system has been installed or by officer nominated by the DISCOMs:

a) Bill/invoice issued to beneficiary by the Empanelled Vendor.

b) Duly signed by beneficiary installation certificate (As per Annexure-10) with name, fathers name& full address of beneficiary with full details of material such as :

(1) Date of commissioning.

(2) Model

(3) Make

(4) Serial Nos. of PV modules and Balance of systems.

c) Address proof of beneficiary like Aadhar Card, Voter Identification number and Electricity Bill etc.

d) The Joint Inspection Report (Annexure-11) and Undertaking (Annexure-12).

e) Two Photographs of beneficiary with installed system (with Date, Time and GPS coordinates), wherein place and date of commissioning is indicated (The Photograph must match with the photograph in the ID proof). As far as possible, photograph of installed system should be taken with person whose ID proof is being taken but in case at the time of taking Photograph the ID proof person is not available at his residence, his/her spouse photograph may be taken with installed system.

f) Copy of Agreement with beneficiary for maintenance.

{Two sets of documents (a) to (f) must be prepared && one copy be submitted to the PM/PO of the respective DISCOM in whose area the system is installed along with bill of subsidy claim}.

#### **(ii) Procedure for verification of system for release of subsidy:**

1. The empanelled/approved vendor will arrange installation of system.
2. The approved vendor will charge and collect balance cost of the system after deducting subsidy payable by the respective DISCOM from the beneficiary.
3. After installation of system the vendor will submit claim of subsidy with

documents required under clause 9.i of the section 9 of this document to concerned Project Manager/ Officer of the respective DISCOM in whose area the system has been installed. The DISCOM officer will verify the installed system as per conditions mentioned in this document.

4. Subsidy amount equivalent to 5% of the total project cost will be retained by the respective DISCOM as performance guarantee (clause 6 section 9).
  5. The respective DISCOM will release balance payable capital subsidy to the Empanelled Vendor firm on completion of installation, commissioning of the system and verification of the system and documents duly verified by the PO/PM, DISCOM concerned.
  6. The DISCOMs reserve the right to appoint a TPA for inspection of the projects to ensure adherence to quality and technical standards as specified in the tender document.
- (iii) **Time period to rectify the complaint:** It should be attended by the Empanelled Vendor within 3 days of lodging. In case the Empanelled Vendor is failed to provide proper maintenance of the systems to the beneficiary within 3 days period from lodging, on further delay in attending and rectifying the fault penalty @Rs.50/- per day per KW will be charged by the respective DISCOM. This penalty will be in addition to clause: 4 in section 2 of Tender document.
- (iv) Empanelled Vendor will maintain a complaints & rectification dairy in two copies, one copy will remain with Empanelled Vendor and other copy will remain with beneficiary. This will be verified by PM/PO & other DISCOM officers in whose area the system has been installed during visits and copy of the same will be provided by the vendor to the concerned DISCOM at the time of final payment claim.
- (v) An agreement in the format at Annexure-7 shall be entered into within scheduled timeline as described in work order/LOA with required SD under clause 4 of section 9 of this document.
- (vi) **Invoicing Pattern:**  
The Empanelled Vendor will directly sell the system to beneficiary through an invoice in the name of beneficiary. The invoice can be of the empanelled vendor and will clearly mention the full value of the system and tax components with deduction of subsidy amount. Empanelled Vendor will submit beneficiary share & subsidy claims enclosing one copy of sale invoice and installation certificates etc as per clause no: 10.i of section 9 of the tender document.
11. Proposals will be valid for a period of 6 months from the date of their opening for the purpose of communicating acceptance by the department. The proposals with validity of less than 6 months will not be considered. The validity can be further extended with mutual consent.
  12. In the event of breach of any of the conditions of the contract at any time on the part of the Empanelled Vendor the contract may be terminated summarily by the respective DISCOM in whose area the breach of conditions has been identified without compensation to the contractor.
  13. The price quoted for the systems must be including installation charges and comprehensive maintenance for 5 years charges as per maintenance and warranty clause and shall remain fixed and firm during the period of contract.
  14. Complete literature and specifications of the material offered must accompany the tender. All type tests certificates as mentioned in the MNRE guidelines for Grid connected Roof

top SPV scheme and amended time to time should be furnished.

### 15. Warranty Clause:-

- (i) The systems offered shall be warranted (including consumables) by the Empanelled Vendor for use and services for a period of five years from the date of commissioning and solar modules shall have warranty for 25 years. Free replacement warranty on spare parts against manufacturing defects for five years.
- (ii) Comprehensive Maintenance Services for 5 years should be provided by the Empanelled Vendor. Quarterly Report for maintenance and Servicing as per Annexure-15 should be prepared and submitted to the respective DISCOM in whose area the system has been installed after providing necessary services.

### 16. (a) Penalty /action for non achievement of milestone :

In case milestones as mentioned in clause 7.b of Section 2 of this tender document are not met, following penalties are applicable:

- (i) 3 & 7 months milestone - The penalty for less achievement @ 0.25% per week maximum upto 2.5%( till the achievement of mile stone) shall be recovered from subsidy claim/SD.
- (ii) 11 month milestone - The penalty for less achievement @ 0.5% per week till the achievement of mile stone. Maximum penalty shall be 5% (i/c penalty recovered for interim milestone)
- (iii) In case of non-achievement of milestone, the SD shall be forfeited partly for the proportionate amount equivalent to percentage of work less executed at the time of milestone.
- (iv) In case of non-achievement of milestone, it shall be the discretion of MD to grant extension or cancel the award by forfeiting the SD. The balance allocation will be awarded to other bidder based on their performance and original ranking of bidders in the ascending order.
- (v) If the next milestone is achieved timely the penalty if deducted for earlier milestone shall be returned.

### Note:

1. Fraction of a day in reckoning the period of delay in supply shall be treated one full day.
  2. The maximum amount of agreed penalty shall be 5 % of total project cost for the project.
- (b) **Extension of time :** If the Empanelled Vendor requires an extension of time in completion of contractual supply on account of occurrence of any hindrance, he shall apply in writing to the purchasing authority for the same immediately on occurrence of the hindrance but not after the stipulated date of completion of supply.

Period may be extended with or without penalty if the delay in supply of goods is on account of hindrances beyond the control of the bidder.

**17. Change in law:**

- (i) In the event a Change in Law results in any adverse financial loss/ gain to the Empaneled Vendor then, in order to ensure that the Empaneled Vendor is placed in the same financial position as it would have been had it not been for the occurrence of the Change in Law, the Empaneled Vendor/ DISCOMs on behalf of residential consumer shall be entitled to compensation by the other party, as the case may be, subject to the condition that the quantum and mechanism of compensation payment shall be determined and shall be effective from such date as may be decided by the Appropriate Commission.
  - (ii) In these Guidelines, the term Change in Law shall refer to the occurrence of any of the following events after the last date of the bid submission, including (i) the enactment of any new law; or (ii) an amendment, modification or repeal of an existing law; or (iii) the requirement to obtain a new consent, permit or license; or (iv) any modification to the prevailing conditions prescribed for obtaining an consent, permit or license, not owing to any default of the empaneled vendor; or (v) any change in the rates of any Taxes which have a direct effect on the Project. However, Change in Law shall not include any change in taxes on corporate income or any change in any withholding tax on income or dividends. In case change in law clause is invoked by any party as mentioned in clause 17 of section9, new L-1 rates will be published by MPMKVCL taking into account the impact of new duties/taxes/GST.
18. The bidders are required to study carefully the conditions of the tender document, the enclosed specifications and the relevant provision of the relevant BIS/ISS/MNRE specifications wherever necessary before submitting the proposal. Technical particulars of the material offered must comply with the enclosed specifications and the relevant provisions of the BIS/ISS/MNRE as far as possible. In case tenders are called for „ISI“ marked stores, the material ‘ISI’ marked only shall be accepted.
  19. Any changes in the constitution of the firm/company shall be notified forth with by the Empaneled Vendor in writing to the Company and such change shall not relieve the tenderer from any liability under the contract.
  20. Bidder will have to submit GST registration certificate number and GST clearance certificate from the competent authority concerned along with the proposal without which proposals may not be considered provided that the purchasing authority has reason to believe (to be recorded in writing) that the bidder has not been able to submit clearance certificate of GST on bona-fide grounds, the authority may consider the tender asking the bidder to furnish the certificate later on but in any case before the execution of the agreement by the successful bidder.
  21. The bidder shall sign on each page at the end in token of acceptance of all the terms and it would be attached /uploaded with the proposal along with the declaration. He should also sign at the bottom of each of the pages of his tender.
  22. The authorisation for installing SPV system can be repudiated at any time by the respective DISCOM if the systems are not supplied and installed to its satisfaction. The reasons for repudiation shall be recorded by the respective DISCOM. In case of non-performance in any form and shape of the terms & conditions of the agreement the MD, of the respective DISCOM has power to cancel the authorisation pertaining to the supply and installation of systems.
  23. If a bidder imposes conditions, which are in addition to/or in contravention with the conditions mentioned herein, his tender is liable to be summarily rejected. In any case none of such conditions will be deemed to have been accepted unless specifically

mentioned in the letter of authorisation issued by Discom.

24. If any question is raised or issue arises between the user (beneficiary) of the SPV Off-grid/grid connected SPV Systems and the Empanelled Vendor and matter is taken to a consumer court, the three DISCOMs and the holding company shall not be responsible in any manner and shall not be made a party in it.
25. **Inspections :** DISCOM shall have the right to inspect the goods for their conformity to the technical specifications at the store/works of Contractor. Further, the Discom Officer shall inspect for quality during commissioning or grid synchronizing and fill Joint Inspection Report. The passing of invoice for subsidy shall depend on satisfactory inspection as per technical specification. The inspecting officer shall check all the documents test certificates and specification prior to clearance of the work completion. The inspection may also be done after the completion of the project either by officer(s) from DISCOM or any agency/ experts designated / authorized by DISCOM from time to time during maintenance period. In addition to this, and in accordance with the directives of MNRE, New Delhi, the DISCOM / Authorized representative of DISCOM may pick a sample of Project component on random basis and have it tested on the cost of the DISCOM. The sample can taken from Vendor Store/Manufacturers place or place of beneficiaries.

However, in case, the sample fails in testing , then Contractor shall be liable to incur all costs for testing and removing/rectifying the component identified as a result of such testing/inspection.

26. After agreeing to sign the LOA, if the successful bidder did not take up the work as per work order issued to the firm. The respective DISCOM will forfeit the deposited amount of the successful bidder as per Clause No. 16 of section 9 and take action for debarring and blacklisting of the firm.
27. If the LOA holder quotes/reduces its price to tender similar goods, works or services at the price lower than the prices mentioned in LOA to anyone in the state at any time during the currency of the LOA, the LOA price shall be automatically reduced with effect from the date of reducing or quoting lower price, for all delivery of the subject matter of procurement under that LOA and the LOA shall be amended accordingly. The firms holding parallel LOAs shall also be given opportunity to reduce their price by notifying them the reduce price giving them fifteen days time to intimate their acceptance to the revised price. Similarly, if a parallel LOA holding firm reduces its during currency of the LOA, its reduced price shall be conveyed to other parallel LOA holding firms and original LOA holding firm for corresponding reduction in their prices. If any LOA holding firm does not agree to the reduced price, further transaction with it, shall not be conducted.
28. Legal proceedings, if any, arising out of the tender contract shall have to be lodged in courts situated in Indore/Gwalior/Jabalpur (depending on against which DISCOM the legal proceedings are to be lodged), Madhya Pradesh only.
29. If any dispute arises out of the contract with regard to the interpretation / meaning and the breach of the terms of the contract, the matter shall be referred to by the parties to The Managing Director, MPPMCL, Bhopal whose decision shall be final and binding.
30. **FORCE MAJEURE:** For purpose of this document, force majeure shall mean an event beyond the control of the Contractor and not involving his fault or negligence and not foreseeable, in its contractual capacity. Such events may include but are not restricted to Acts of God, wars or revolutions, fires, floods, epidemics, quarantine restriction, fright



embargoes and site clearance etc. Whether a force majeure situation exists or not, shall be decided by implementing Agency and its decision shall be final and binding on the Contractor and all other concerned.

In the event that the Contractor is not able to perform his obligations under this Agreement on account of force majeure, he will be relieved of his obligations during the force majeure period.

If a force majeure situation arises, the Contractor shall notify Nodal Agency in writing.

### **31. DISPUTE RESOLUTION**

If any dispute of any kind whatsoever shall arise between the Implementing agency and the Empanelled agency in connection with or arising out of the Empanelment\Bid, the parties shall seek to resolve any such dispute or difference in opinion, to the extent possible, amicably by mutual consultation. If the parties have failed to resolve their dispute or difference by such mutual consultation, then the dispute shall be referred in writing by either party to initiate the Arbitration process. Dispute shall be resolved by arbitration under the provisions of the “Madhya Pradesh Madhyastham Adhikaran Adhiniyam, 1983”, as amended, as under, provided not settled amicably as per this clause. In such events, any party to such Dispute may refer the matter to registrar under the Rules of the Indian Council of Arbitration:

- (i) The Arbitration Tribunal shall consist of three (3) Arbitrators. Each party shall appoint one Arbitrator within 30 Days of the receipt of request for settlement of dispute by Arbitration. The two appointed Arbitrators shall within 30 Days of their appointment, appoint a third Arbitrator who shall act as presiding Arbitrator. In case the party fails to appoint an Arbitrator within 30 Days from the date of receipt of request or the two appointed Arbitrator fails to agree on third Arbitrator within 30 Days of their appointment, the appointment of Arbitrator, as the case may be, shall be made in accordance with the Indian Arbitration and Conciliation Act, 1996.
- (ii) The place of arbitration shall be Bhopal/ Jabalpur/ Indore in respective DISCOMs jurisdiction. The language of the arbitration shall be English.
- (iii) The Arbitration Tribunal's award shall be substantiated in writing. The Arbitration Tribunal shall also decide on the costs of the arbitration proceedings and the allocation thereof.
- (iv) The provisions of this Article shall survive the termination of this Empanelment for any reason whatsoever.
- (v) The award shall be of majority decision. If there is no majority, the award will be given by the presiding Arbitrator.

### **32. GOVERNING LAW**

All questions concerning the construction, validity and interpretation of this Agreement will be governed by the laws of India, and the courts at Jabalpur, India shall have exclusive jurisdiction with respect to any Dispute that occurs according to, or in relation to, the Agreement.

### **33. SEVERABILITY**

If any provision of this Agreement is deemed or held by a court of competent jurisdiction, to be contrary to law or otherwise unenforceable, the provisions of this Agreement shall be enforced to the extent legally permissible and unenforceability of any of the provisions of this Agreement shall not affect the remaining provisions of this Agreement, which

shall remain in full force and effect.

I/We have carefully read and understood the above terms & conditions of the tender document and agree to abide by them.

SIGNATURE OF AUTHORISED  
SIGNATORY WITH SEAL

## SECTION-10 MODE OF AWARD OF TARGETS

1. MPMKVVCL intent to distribute the total work for 45 MW as per allocation to the respective Discom by MNRE, New Delhi among following two categories of Bidders as under:

Bidder Category	Work Distribution
Category A	80% of the total capacity (36 MW)
Category B	20 % of the total capacity (9 MW)

2. Financial offers (Price bid) of all the technically qualified bidders in category A will be opened and L-1 prices for the various slabs will be finalised separately and MPMKVVCL take-up award of work as per procedure given below.
3. Category-A bidders : The following steps will be followed to determine benchmark rates and eligible vendors for each of the DISCOM;

- (i) The offers for each of the DISCOM will be arranged in the ascending order on the basis of Weighted Sum of their quoted rates for Slab-1 and Slab-2. The Weighted Sum of quoted rates of each category-A will be calculated by multiplying their quoted rates (in Online Cover-C) with "Factor for Evaluation" as per example given below :

SPV Plants without Battery Bank incl. 5 years CMC	Quoted Project cost of the bidder (Rs./Wp)	Factor of Evaluation (%)	Cost for evaluation (Rs/Wp)
Slab1; >1 kW & up to 3 kW	53.5	0.9381	50.1884
Slab2: >3 kW & up to 10 kW	52.5	0.0593	3.1133
Slab3:>10 kW & up to 100 kW	49.5	0.0025	0.1238
Slab4:>100 kW & up to 500 kW	47.5	0.0001	0.0048
Weighted Sum (Rs/Wp)			53.4301

- (ii) All the category -A bidders will be arranged in ascending order on the basis of Weighted sum calculated as per the clause above.
- (iii) The Weighted Sum of lowest quoted Slab-wise rates will be calculated by multiplying the lowest quoted rates (in Online Cover-C) (considering rates quoted by Category-B bidders also) with 'Factor for Evaluation' as per example given below :

Bidder name who has quoted lowest price in the slab	SPV Plants without Battery Bank incl. 5 years CMC	Quoted Project cost of the bidder (Rs./Wp)	Factor of Evaluation (%)	Cost for evaluation (Rs/Wp)
Bidder-1	Slab1; >1 kW & up to 3 kW	50.5	0.9381	47.3741
Bidder-2	Slab2: >3 kW & up to 10 kW	51	0.0593	3.0243
Bidder-4	Slab3: >10 kW & up to 100 kW	48	0.0025	0.1200
Bidder-5	Slab 4: >100 kW & up to 500 kW	46	0.0001	0.0046
Weighted Sum of lowest price (Rs/Wp)				50.5230



- (iv) The category-A bidders, whose Weighted sum of quoted Rates are higher upto 25% than the Weighted Sum of Lowest Rates may only be considered for allocation of Capacities after matching Slab-wise Lowest Quoted rates for respective Discom(Lot).
- (v) The Slab-wise lowest prices will be used as benchmark prices for subsidy calculation
- (vi) The bidders will be ranked as per their weighted sum of prices , with bidder equal to or next greatest to the identified weighted sum of lowest price will be declared as L-1. The capacity allocation to the successful bidders will be as per clause 7 of section 10
4. Category-B bidders: The following steps will be followed to determine benchmark rates and eligible vendors for each of the DISCOM;

- (i) The offers for each of the DISCOM will be arranged in the ascending order on the basis of Weighted Sum of their quoted rates for Slab-A and Slab-B. The Weighted Sum of quoted rates of each category-B Bidder will be calculated by multiplying their quoted rates (in Online Cover-C) with “Factor for Evaluation” as per example given below :

SPV Plants without Battery Bank incl. 5 years CMC	Quoted Project cost of the bidder (Rs./Wp)	Factor of Evaluation (%)	Cost for evaluation (Rs/Wp)
Slab1; >1 kW & up to 3 kW	53.5	0.9381	50.1884
Slab2: >3 kW & up to 10 kW	52.5	0.0593	3.1133
Weighted Sum (Rs/Wp)			53.3016

- (ii) All the category -B bidders will be arranged in ascending order on the basis of Weighted sum calculated as per the clause above.
- (iii) The Weighted Sum of lowest quoted Slab-wise rates will be calculated by multiplying the lowest quoted rates (in Online Cover-C) (considering rates quoted by Category-A bidders also) with “Factor for Evaluation” as per example given below :

Bidder name who has quoted lowest price in the slab	SPV Plants without Battery Bank incl. 5 years CMC	Quoted Project cost of the bidder (Rs./Wp)	Factor of Evaluation (%)	Cost for evaluation (Rs/Wp)
Bidder-1	Slab1; >1 kW & up to 3 kW	50.5	0.9381	47.3741
Bidder-2	Slab2: >3 kW & up to 10 kW	51	0.0593	3.0243
Weighted Sum of lowest price (Rs/Wp)				50.3984

- (iv) The category-B bidders, whose Weighted sum of quoted Rates are higher upto 25% than the Weighted Sum of Lowest Rates may only be considered for allocation of Capacities after matching Slab-wise Lowest Quoted rates for respective Discom(Lot).
- (v) The Slab-wise lowest prices will be used as benchmark prices for subsidy calculation
- (vi) The bidders will be ranked as per their weighted sum of prices , with bidder equal to or next greatest to the identified weighted sum of lowest price will be declared as L-1. The capacity allocation to the successful bidders will be as per clause 7 of section 10

5. All the eligible firms fulfilling the criteria as per Clause No. 3.5 and 4.5 will be offered to give their consent to match the lowest Slab-wise Rates discovered via a letter of intent (except for L-1 bidder in category-A and B) and allocation of work will be awarded accordingly, if the firm agrees to take up work on slab wise lowest offered rates through a Letter of Award. The slab-wise discovered L-1 prices will be used as benchmark for calculation of subsidy.
6. **Issue of LOI/Letter of Allocation/Letter of Award :** The letter of allocation shall be issued directly (without issue of letter of intent) to declared L1 bidders of A and B category as per clause 3(vi)/4(vi) on slab wise L1 rates discovered. On the basis of Letter of allocation by CZ, the respective Discom shall issue LoA (Letter of Award) and the bidder shall execute agreement, deposit SDs within 15 days of issue of Letter of Award for allotted capacities.

The Letter of Intent (LOI) shall be issued to other eligible bidders inviting them to match the slab-wise L-1 price. The bidder agreeing to slabwise L1 prices shall be issued letter of allocation. Further formalities shall be as per above. After issue of Letter of Allocation from CZ/ Letter of Award from respective Discom, if the bidder fails to make the above formalities within 15 days of issue of Letter of Award, the EMD will be forfeited by MPMKVVCL. The Bidder may be debarred for a maximum period of 5 years by respective Discoms which shall be on the discretion of MD, Discom.

7. The allocation of capacities shall be done to the A& B Category bidders whose quoted rates are upto 25% of weighted sum of lowest prices (as per Clause 3 & 4), which shall be as under :-

<b>DISCOM-wise capacity allocation for Category-A bidders (in kWp)</b>				
	MPMKVVCL, Bhopal	MPPoKVVCL, Jabalpur	MPPaKVVCL, Indore	Total
L1	1600	800	1200	3600
L2	1280	640	960	2880
L3	1120	560	840	2520
L4 and other eligible bidders upto L1+25%	800	400	600	1800
<b>DISCOM-wise capacity allocation for Category-B bidders (in kWp)</b>				
L1	400	200	300	900
L2	320	160	240	720
L3	280	140	210	630
L4 and other eligible bidders upto L1+25%	200	100	150	450

8. **Process for allotment in case of non-availability of sufficient offers:** If successful bidders are found to be less than 5 in the acceptable band of 25% ,the Discom may consider bidders who fall in L1+(25+5)% of L1,provided they agree to match L1 rates. If,still, sufficient offers are not found in the band in a particular Discom lot and capacities remains unallocated, it shall be allocated as per following steps strictly:

**Step 1 :** If capacity remains unallocated in a category (Category A or B), it shall be

transferred to other category for allotment of successful bidders to whom allotment could not be made, in the ascending order. The allotment shall be made on the basis of Table given in Clause No. 7.

**Step 2: Additional allotment of 50 % /100 % quota** - If after the allotment of successful bidders of both the categories, some capacity remains unallocated in one or both the categories, it shall be allocated @ 50% of original allotment from L1 bidders in the ascending order in that category.

Thereafter, additional quota of 50% shall be allocated to the successful bidders of other category from L1 in the ascending order.

In the special circumstances, Discom shall have right to allocate 100% additional quota of original allotment from L1 bidders in the ascending order of quoted rates as per above process.

**Step 3 :** If after complying the provisions given in Step 1 & 2, some quantity still left unallocated, it shall be allocated to the successful bidders of other lots for that category to whom allotment could not be made. For the allotment to successful bidders of other Discom lots, a single list shall be prepared as per their quoted rate in the ascending order. These rates have no relation except for the preparation of list. The allotment of balance capacity shall be made in the ascending order of the prepared list of successful bidders of other Discoms (except those to whom allotment already made under step 1 & 2) on the L1 rates of the Discom where the capacity is being allocated.

**9. Procedure for additional allotment :** For the allotment process given in clause 8, LOI shall be issued to the successful bidders mentioning the quantity and their consent shall be desired within 15 days of issue of letter. The letter shall be sent through Speed post and also through email address (es) of the bidder given in Annexure 1 of the Bid document. Next step shall be initiated after above period without issuing any reminder.

The bidder shall submit consent letter for execution of additional allotment within the time frame and SD/additional SD for the quantity allocated as per the provision given in Clause 8.

10. The empaneled agencies will have to achieve milestones as mentioned in clause 6 of section 2, failing which action will be taken as per tender clause 6 in section 2 and ultimately the surrendered/uncompleted quantity will be awarded to the other interested firms. MPMKVVCL will be free to allot this quantity as additional quantity amongst empanelled contractors on the basis of their performance and original ranking as bidder after getting their consent as per procedure given in clause 9 above.

11. Further allocations of work quantity if arises from additional allocation from MNRE will be made on performance basis after reviewing the progress of the work already awarded by the firms , original ranking as bidder after getting their consent as per procedure given in clause 9 above.

12. Maximum allowable project cost would be as per L1 rate or MNRE benchmark cost of respective category, whichever is lower. Any bid quoted above the maximum allowable project cost shall be rejected.

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## SECTION-11 WORKS CONTRACT

Works Contract Tax (WCT) is not applicable in this project. However, it should be clarified that the DISCOM's role is limited to making payment of subsidy as received from MNRE towards cost of system & its installation as per the terms and conditions of tender & work order. Accordingly, the three DISCOMs are of the view that this shall not attract provisions of work contract tax. However, if the revenue authorities are of the opinion that works contract tax is applicable to the above payments by the DISCOMs and insists to deduct the same from Empanelled Vendor's payment. The DISCOMs would deduct the same from Empanelled Vendor's due subsidy/other payments.

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## SECTION-12 : Steps to Take up the Work

Although the procedure of taking up work to complete as per requirement has already described in the document, in order to provide guidelines at a glance further, the steps to take up work under this programme are summarised as under. In addition, please note that the Empanelled Agency will have to follow the steps mentioned in the table below for each of the DISCOM where the consumer is located.

1	The letter of allocation of shall be issued to L1 bidder and Letter of Intent (LOI) to other eligible bidders inviting them to match the slab-wise L-1 price. The respective Discom shall issue LoA (Letter of Award) and the bidder shall execute agreement , deposit the success charges and submit SDs within 15 days for allotted capacities within 15 days.
2	The Empanelled Vendor will motivate the interested beneficiary eligible for subsidy as per MNRE Guidelines for installation of SPV Power Plant for captive consumption. For identification of projects, The DISCOMs may provide help such as publicity etc., However the entire responsibility of identification of buildings /beneficiaries lies with the Empanelled Vendor.
3	The Empaneled Agency's shall visit the site of beneficiary estimate the capacity of project and motivate the beneficiary to submit application for net metering in Annexure V A of Notification of Govt. of M.P. dated 04.10.2016 for project sanction to DGM/EE (O&M) of respective Discoms Online portal along with following documents : 1. Agreement between the empanelled vendor and the owner of Project (Notarised original agreement should be submitted) 2. Sanction letter for net metering connectivity from the concerned DISCOM 3. ID Proof and passport size photograph of Consumer 4. Latest Electricity Bill
4	The respective DISCOM/TPA in whose area the system will be installed will examine the DPR and issue subsidy sanction of the specific project Online indicating value of subsidy admissible and project will be uploaded on SPIN of MNRE.
5	The Empanelled Agency will collect balance amount of cost of project after deducting subsidy payable by the DISCOM from beneficiary in the form of cheque/DD from beneficiaries. The Empaneled Vendor shall bear the entire cost of metering arrangement provided including its accessories except net metering application fees, which will be borne by beneficiary.
6	The Empanelled agency shall offer the material as per project report to the DICOM for pre-dispatch inspection.
7	After material inspection by the inspector, Dispatch clearance shall be issued by the respective DISCOM and then Empaneled Agency can dispatch the material for site of beneficiary for further installation and commissioning of the project.
8	The Empanelled Vendor shall complete the work of civil work, erection, testing & commissioning of Power Plant and submit claim of subsidy to concerned Project officer/ Project Manager, DISCOM for verification as per clause 9 (Payment Terms) of Section 9 of this document.

9	The Empanelled Vendor will submit subsidy claim to the DISCOM
10	The Empanelled Vendor will provide maintenance services up to the period of FIVE years from date of commissioning of Power Plant.

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## List of Annexures:

Annexure-1	Brief details of the Bidder:
Annexure-2	Technical Specifications for Grid Connected SPV Systems
Annexure-3 A, B & C	Schedule of Experience and Details of After Sales Service Centres (Existing/Proposed)
Annexure-4	Price Schedule
Annexure -5	
Annexure -6	Tender Form
Annexure-7	Format of Agreement with successful bidder.
Annexure-8	Format of Undertaking to be submitted by the bidder.
Annexure-9	Online Tender Portal Usage Instructions
Annexure-10	Format of Installation certificate
Annexure-10 (A)	Joint Inspection Report
Annexure-10 (B)	Undertaking by Vendor
Annexure 11(A), 11(B), 11(C)	Instructions and formats to be for conflict of interest, Declaration by the Bidder regarding Qualifications Declaration by the Bidder and additional conditions of contract
Annexure-12	Format for Subsidy claim Note
Annexure-13	Declaration of material proposed for supply under this programme by the bidder
Annexure-14	Quarterly Maintenance & Servicing Report
Annexure-15	Format For Certificate of Relationship of Parent Company or Affiliate with the Bidder
Annexure-16	Undertaking from the Financially Evaluated Entity or its Parent Company / Ultimate Parent Company
Annexure-17	MPMKVVCL's Bank Account Details
Annexure-18	Letter of Undertaking to execute the capacity
Annexure-19	Letter of Undertaking to submit Electrical Contractor License
Annexure-20	Certificate for work completion



## Annexure – 1 Brief details of the Bidder:

The brief details of the bidder should be filled in by the bidder as under:

S. No	Particulars required	Details	
1	Name of Firm		
2	Office Address of Registered Office		
3	Category of the Bidder (Please indicate Yes/No)	Category – A	Category – B
4	Registration Number :		
5	Date of Registration :		
6	Registered Address with Tel. Number		
7	Legal Status /Type of Company Attach Proof of Company Registration along with a copy of the Partnership Deed/ Article of Association and Memorandum	Proprietorship/ Partnership/ Private Limited/ Public Limited/LLP (Please tick appropriately and submit the documentary proof)	
8	Details of Product(s) being manufactured at their own		
9	Address of Manufacturing unit with Tel. Number		
10	Name of Directors/Proprietor of Company [at least Two directors with DIN No., email IDs (mandatory) & contact Numbers]	(1)  (2)	
11	GSTIN Number: PAN Number:		
12	Year from which firm is in business in Renewable Energy Technology		
13	Major Area (Name of States) of working remained till date		
14	Technical Officers/Engineers and other officers/officials are working in the company	(1) Technical Persons (Nos.) ....., (2) Other officers/officials (Nos.....),	
15	Branch offices/Dealers' network is available in Madhya Pradesh or not		
16	The person(s) authorised by the company for work of Roof Top SPV Power Plants in Madhya Pradesh		

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## Annexure-2 Technical Specifications for Grid Connected SPV Systems

The proposed projects shall be commissioned as per the technical specifications given below. Any shortcomings will lead to cancelation of subsidy in full or part as decided by the DISCOMs.

### 1. DEFINITION:

A Grid Connected Solar Rooftop Photo Voltaic (GCRT) power plant consists of Solar Photovoltaic Array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), charge controller (if required), Inverter, and Controls & Protections, interconnect cables, solar meter, bi-directional energy meter, switches and lightning arrestors (if required). PV Array is mounted on a suitable structure. Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during daytime. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should confirm to the BIS, IEC, or international specifications, wherever such specifications are available and applicable.

Solar PV system shall consist of following equipment/components.

- Solar PV modules consisting of required number of Crystalline PV modules.
- Grid interactive Power Conditioning Unit with Remote Monitoring System.
- Mounting structures.
- Junction Boxes.
- Surge Protection Device
- Earthing protection and Lightning arrestors.
- IR/UV protected PVC Cables, pipes and accessories.
- Solar Meter and Bi-directional Energy Meter

### 2. SOLAR PHOTOVOLTAIC MODULES:

- (i) The PV modules and Solar Cell used should be made in India. Necessary documents in this regard must be provided to DISCOM.

Violation of norms of Domestic Content Requirement (DCR) UNDER Solar PV projects will lead to penalties and actions as mentioned in office memorandum of MNRE GOI vide letter no. 283/2018-GRID SOLAR dated 20th February 2018 as under:

- a) Filing of criminal case under IPC 420 and related Sec.
- b) Blacklisting of developers for period of 10 year
- c) Forfeiting of relevant bank guarantee(s)
- d) Disciplinary case against the Officers of concerned CPSU/ State Govt.

- e) Any other action, in addition to those above

Please note that in absence of the Approved List of Models and Manufacturers (ALMM), the Empanelled Agencies shall have to submit self-declaration regarding domestically manufactured Cell and Modules used in the SPV System in this project. Whenever, the ALMM list published by the MNRE, the Model and Manufactures of the Module and Cell shall be from the ALMM only used in the SPV System in this project.

- (ii) The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC61730 Part-2- requirements for construction & Part 2 – requirements for testing, for safety qualification or equivalent IS.
- a) For the PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701/IS 61701 (if required)
  - b) The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 250 Wp. Module capacity less than 250 watts shall not be accepted
  - c) Protective devices against surges (SPD) at the PV module shall be provided. Low voltage drop bypass diodes shall be provided.
  - d) PV modules must be tested and approved by one of the IEC/BIS authorized test centres
  - e) The module frame shall be made of corrosion resistant materials, preferably having anodized aluminium.
  - f) The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid.
  - g) The PV Module efficiency should be higher than 15%.
  - h) Other general requirement for the PV modules and sub systems shall be the following:
    - The rated power of solar PV module shall have maximum tolerance up to +3%. No negative tolerance in the rated capacity of solar PV module is allowed.
    - The peak-power point voltage and the peak-power point current of any supplied module string (series connected modules) shall not vary by + 2% from the respective arithmetic means for all modules and/or for all module strings, as the case may be.
    - I-V curves at STC shall have to be provided by bidder.
    - Minimum certified PV module efficiency shall be 15% for crystalline. The temperature co-efficient power of the PV module shall not be less than -0.50% /°C.
    - The PV modules shall be equipped with IP67 or higher protection level junction box with a minimum of 3 (three) numbers of bypass diodes of appropriate rating and appropriately sized output power cable of

symmetric length with MC4 or equivalent solar connectors.

- (iii) Modules deployed 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).
  - a) Name of the manufacturer of the PV module
  - b) Name of the manufacturer of Solar Cells.
  - c) Month & year of the manufacture (separate for solar cells and modules)
  - d) Country of origin (separately for solar cells and module)
  - e) I-V curve for the module Wattage,  $I_m$ ,  $V_m$  and FF for the module
  - f) Unique Serial No and Model No of the module
  - g) Date and year of obtaining IEC PV module qualification certificate.
  - h) Name of the test lab issuing IEC certificate.
  - i) Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001
- (iv) Warranties:
  - a) Material Warranty:
    - i. Material Warranty is defined as: The manufacturer should warrant the Solar Module(s) to be free from the defects and/or failures specified below for a period not less than five (05) years from the date of commissioning.
    - ii. Defects and/or failures due to manufacturing
    - iii. Defects and/or failures due to quality of materials
    - iv. Non-conformity to specifications due to faulty manufacturing and/or inspection processes. If the solar Module(s) fails to conform to this warranty, the manufacturer will repair or replace the solar module(s), at the Owners sole option.
  - b) Performance Warranty:
    - i. The predicted electrical degradation of power generated not exceeding 20% of the minimum rated power over the 25-year period and not more than 10% after ten years period of the full rated original output.
    - ii. Further, module shall have performance warranty of >97% during the first year of installation. Degradation of module should not be more than 1 % per annum.

### 3. ARRAY STRUCTURE

- (i) Hot dip galvanized MS mounting structures may be used for mounting the modules/  
panels/arrays. Each structure should have angle of inclination as per the site conditions to take maximum insolation. However to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements.
- (ii) The Mounting structure shall be so designed to withstand the speed for the wind

zone of the location where a PV system is proposed to be installed in Madhya Pradesh. It may be ensured that the design has been certified by a recognized Lab/ Institution in this regard and submit wind loading calculation sheet to the DISCOM. Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed.

- (iii) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS4759.
- (iv) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Aluminium structures also can be used which can withstand the wind speed of respective wind zone. Necessary protection towards rusting need to be provided either by coating or anodization.
- (v) The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels
- (vi) Regarding civil structures the bidder need to take care of the load bearing capacity of the roof and need arrange suitable structures based on the quality of roof.
- (vii) The total load of the structure (when installed with PV modules) on the terrace should be less than 60kg/m<sup>2</sup>.
- (viii) The minimum clearance of the structure from the roof level should be 300 mm.

#### 4. JUNCTION BOXES (JBs)

- (i) The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.
- (ii) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads Conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single /double compression cable glands. Provision of earthings. It should be placed at 5 feet height or above for ease of accessibility.
- (iii) Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.
- (iv) Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification.
- (v) All fuses shall have DIN rail mountable fuse holders and shall be housed in thermoplastic IP 65 enclosures with transparent covers.

#### 5. DC DISTRIBUTION BOARD:

- (i) DC Distribution panel to receive the DC output from the array field.
- (ii) DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection. The bus bars are made of copper of desired size. Suitable capacity

MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors.

#### 6. AC DISTRIBUTION PANEL BOARD:

- (i) AC Distribution Panel Board (DPB) shall control the AC power from PCU/inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.
- (ii) All switches and the circuit breakers, connectors should conform to IEC60947, part I, II and III/ IS60947 part I, II and III.
- (iii) The changeover switches, cabling work should be undertaken by the bidder as part of the project.
- (iv) All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz
- (v) The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.
- (vi) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.
- (vii) Should conform to Indian Electricity Act and rules (till last amendment).
- (viii) All the 415 AC or 230 volts devices / equipment like bus support insulators, circuit breakers, SPDs, VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions  
 Variation in supply voltage : +/- 10 %  
 Variation in supply frequency : +/- 5 Hz

#### 7. PCU/ARRAY SIZE RATIO:

- (i) The combined wattage of all inverters should not be less than rated capacity of power plant under STC.
- (ii) Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.

#### 8. PCU/ Inverter:

- (i) As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the "Power Conditioning Unit (PCU)". In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit/inverter should also be DG set interactive. If necessary. Inverter output should be compatible with the grid frequency. Typical technical features of the inverter shall be as follows:
  - a) Switching devices : IGBT/MOSFET
  - b) Control : Microprocessor /DSP
  - c) Nominal AC output voltage and frequency : 415V, 3 Phase, 50 Hz(In case single phase inverters are offered, suitable arrangement for balancing the phases must be made.)

- d) Output frequency : 50 Hz
- e) Grid Frequency Synchronization range :  $\pm 5$  Hz
- f) Ambient temperature considered :  $-20^{\circ}\text{C}$  to  $50^{\circ}\text{C}$
- g) Humidity : 95 % Non-condensing
- h) Protection of Enclosure : IP-20(Minimum) for indoor.  
IP-65(Minimum) for outdoor.
- i) Grid Frequency Tolerance range :  $\pm 5$  Hz
- j) Grid Voltage tolerance : - 20% & + 15 %
- k) No-load losses : Less than 1% of rated power
- l) Inverter efficiency(Min.):  $>93\%$  (In case of 10kW or above with in-built galvanic isolation)  $>97\%$  (In case of 10 kW or above without inbuilt galvanic isolation)
- m) Inverter efficiency (minimum):  $> 90\%$  (In case of less than 10 kW)
- n) THD:  $< 3\%$
- o) PF :  $> 0.9$
- (ii) Three phase PCU/ inverter shall be used with each power plant system as per net metering regulation/electricity supply code in vogue in the state of Madhya Pradesh
- (iii) PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
- (iv) The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder.
- (v) Built-in meter and data logger to monitor plant performance through external computer shall be provided.
- (vi) Anti-islanding (Protection against Islanding of grid): The PCU shall have anti islanding protection in conformity to IEEE 1547/UL 1741/ IEC 62116 or equivalent BIS standard.
- (vii) Successful Bidders shall be responsible for limiting dc injection into the grid and load as per the CEA/state regulations.
- (viii) The PCU/ inverter generated harmonics, flicker, DC injection limits, Voltage Range, Frequency Range and Anti-Islanding measures at the point of connection to the utility services should follow the latest CEA (Technical Standards for Connectivity Distribution Generation Resources) Guidelines.
- (ix) The power conditioning units / inverters should comply with applicable IEC/equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068-2(1,2,14,30) /Equivalent BIS Std.
- (x) The charge controller (if any) / MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS std. The junction boxes/enclosures should be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529specifications.
- (xi) The PCU/ inverters should be tested from the MNRE approved test centres /NABL /BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

## 9. INTEGRATION OF PV POWER WITH GRID:

The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In



case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the DG set comes into service PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid/ DG power connection need to be provided.

#### 10. DATA ACQUISITION SYSTEM / PLANT MONITORING

- (i) Data Acquisition System shall be provided for each of the solar PV plant.
- (ii) Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis with the high quality, suitable PC. Metering and Instrumentation for display of systems parameters and status indication to be provided.
- (iii) Solar Irradiance: An integrating Pyranometer / Solar cell based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system [This will be provided with SPV Power Plants of PV capacity more than 5kW].
- (iv) Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with read out integrated with the data logging system [This will be provided with SPV Power Plants of PV capacity more than 5 kW].
- (v) The following parameters are accessible via the operating interface display in real time separately for solar power plant:
  - a. AC Voltage.
  - b. AC Output current.
  - c. Output Power
  - d. Power factor.
  - e. DC Input Voltage.
  - f. DC Input Current.
  - g. Time Active.
  - h. Time disabled.
  - i. Time Idle.
  - j. Power produced
  - k. Protective function limits (Viz-AC Over voltage, AC Under voltage, Over frequency, Under frequency ground fault, PV starting voltage, PV stopping voltage.
- (vi) All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and read on the digital front panel at any time) and logging facility (the current values, previous values for up to a month and the average values) should be made available for energy auditing through the internal microprocessor and should be read on the digital front panel.
- (vii) Solar Meter: Energy Meters to log the actual value of Energy generated by the PV system be provided. Energy meter if required with CT/PT should be of 0.5 accuracy class/as per Discoms guidelines.
- (viii) Computerized DC Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or separately.

- (ix) Array DC Voltage, Current and Power, Inverter AC Output Voltage and Current (all three phases and lines), AC Power (Active, Reactive and Apparent), Power Factor and AC Energy ( All three Phases and Cumulative) and Frequency shall be monitored.
- (x) Computerized AC energy monitoring shall be in addition to the digital AC Energy Meter.
- (xi) The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form.
- (xii) All instantaneous data shall be shown on the computer screen.
- (xiii) Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant.
- (xiv) Provision for instantaneous Internet monitoring and download of data shall be also incorporated.
- (xv) Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants. The data of the solar radiation and temperature monitoring system should also be available on Remote Monitoring server [This will be provided with SPV Power Plants of PV capacity more than 50kW].
- (xvi) Ambient / Solar PV module back surface temperature shall be also monitored on continuous basis [This will be provided with SPV Power Plants of PV capacity more than 50kW].
- (xvii) Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided [This will be provided with SPV Power Plants of PV capacity more than 50kW].
- (xviii) Remote Monitoring and data acquisition through Remote Monitoring System software at the owner respective DISCOM location with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and operation and maintenance/control to be ensured by the Empanelled Vendor. Provision for interfacing these data on respective DISCOM server and portal in future shall be kept.

#### 11. TRANSFORMER “IF REQUIRED” & METERING:

- (i) Dry/oil type relevant kVA, 11kV/415V, 50 Hz Step up along with all protections, switchgears, Vacuum circuit breakers, cables etc. along with required civil work. (If the transformer is required, the cost of the same will be borne by beneficiary and will not be the part of project cost). not be the part of project cost).
- (ii) The bi-directional electronic energy meter (0.5 S class) shall be installed for the measurement of import/Export of energy.
- (iii) The bidder must take approval/NOC from the Concerned DISCOM for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network and submit the same to respective DISCOM;s portal before commissioning of SPV plant.
- (iv) Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement.

## 12. POWER CONSUMPTION:

Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid. Decisions of appropriate authority on the export tariff like DISCOM, MPERC may be followed.

## 13. PROTECTIONS

The system should be provided with all necessary protections like earthing, Lightning, and grid islanding as follows:

### (i) LIGHTNING PROTECTION

The SPV power plants shall be provided with lightning & over voltage protection. The main aim in this protection shall be to reduce the overvoltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc. The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per NFC17-102:2011 standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.

### (ii) SURGE PROTECTION

Internal surge protection shall consist of three SPD type-II surge-arrestors connected from +ve and –ve terminals to earth (via Y arrangement)

### (iii) EARTHING PROTECTION

a) Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition the lightning arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of DISCOM as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly.

b) Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.

### (iv) GRID ISLANDING:

a) In the event of a power failure on the electric grid, it is required that any independent power-producing inverters attached to the grid turn off in a short period of time. This prevents the DC-to-AC inverters from continuing to feed power into small sections of the grid, known as “islands.” Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.

b) A manual disconnect 4pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked by the utility personnel.

## 14. CABLES

Cables of appropriate size to be used in the system shall have the following characteristics:

- (i) Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards
- (ii) Temp. Range:  $-10^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$ .
- (iii) Voltage rating 660/1000V
- (iv) Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
- (v) Flexible
- (vi) Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop(power loss) of the entire solar system to the minimum (2%).
- (vii) For the DC cabling, XLPE or, XLPO insulated and sheathed, UV-stabilized single core multi-stranded flexible copper cables shall be used; Multi-core cables shall not be used.
- (viii) For the AC cabling, PVC or, XLPE insulated and PVC sheathed single or, multi-core multi-stranded flexible copper/Aluminium cables shall be used; Outdoor AC cables shall have a UV-stabilized outer sheath.
- (ix) The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use. Outer sheath of cables shall be electron beam cross-linked XLPO type and black in colour.
- (x) The DC cables from the SPV module array shall run through a UV-stabilized PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm.
- (xi) Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers
- (xii) All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with thermo-plastic clamps at intervals not exceeding 50 cm; the minimum DC cable size shall be 4.0 mm<sup>2</sup> copper; the minimum AC cable size shall be 4.0 mm<sup>2</sup> copper. In three phase systems, the size of the neutral wire size shall be equal or half to the size of the phase wires.
- (xiii) Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified. In addition, cable drum no. / Batch no. to be embossed/printed at every one meter.
- (xiv) Cable Jacket should also be electron beam cross-linked XLPO, flame retardant, UV resistant and black in colour.
- (xv) All cables and connectors for use for installation of solar field must be of solar grade which can withstand harsh environment conditions including High temperatures, UV radiation, rain, humidity, dirt, salt, burial and attack by moss and microbes for 25 years and voltages as per latest IEC standards. DC cables used from solar modules to array junction box shall be solar grade copper (Cu) with XLPO insulation and rated for 1.1kVas per relevant standards only.
- (xvi) The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All the cables required for the plant shall be provided by the bidder.
- (xvii) Any change in cabling sizes if desired by the bidder shall be approved after citing appropriate reasons. All cable schedules/ layout drawings shall be approved prior to installation.
- (xviii) Multi Strand, Annealed high conductivity copper conductor PVC type A pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection Armoured cable for underground laying. All cable trays including covers to be provided. All cables conform to latest edition of IEC/ equivalent BIS Standards as specified below:

- (xix) BoS item / component Standard Description Standard Number Cables General Test and Measuring Methods, PVC/XLPE insulated cables for working Voltage up to and including 1100 V, UV resistant for outdoor installation IS /IEC 69947.
- (xx) The total voltage drop on the cable segments from the solar PV modules to the solar grid inverter shall not exceed 2.0%.
- (xxi) The total voltage drop on the cable segments from the solar grid inverter to the building distribution board shall not exceed 2.0%.

#### 15. CONNECTIVITY

The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the MPERC (Grid Connected Net Metering) Regulations, 2015 and its amendments/ substitutions enforced from time to time.

- (i) The maximum permissible capacity for rooftop shall be 1 MW for a single net metering point.
- (ii) Utilities may have voltage levels other than above, DISCOMS may be consulted before finalization of the voltage level and specification be made accordingly.
- (iii) For large PV system (Above 100 kW) for commercial installation having large load, the solar power can be generated at low voltage levels and stepped up to 11 kV level through the step up transformer. If the transformer is required, the cost of the same will be borne by beneficiary separately and will not be the part of project cost.

#### 16. TOOLS & TACKLES AND SPARES:

- (i) After completion of installation & commissioning of the power plant, necessary tools & tackles are to be provided free of cost by the bidder for maintenance purpose. List of tools and tackles to be supplied by the bidder for approval of specifications and make from the respective DISCOM.
- (ii) A list of requisite spares in case of PCU/inverter comprising of a set of control logic cards, IGBT driver cards etc. Junction Boxes. Fuses, MOVs /arrestors, MCCBs etc alongwith spare set of PV modules be indicated, which shall be supplied along with the equipment or can be maintained at Empanelled Vendor end. A minimum set of spares shall be maintained in the plant itself or can be maintained at Empanelled Vendor end for the entire period of warranty and Operation & Maintenance which upon its use shall be replenished\

#### 17. DANGER BOARDS AND SIGNAGES:

Danger boards should be provided as and where necessary as per IE Act/IE rules as amended up to date. Three signage shall be provided one each at battery –cum- control room, solar array area and main entry from administrative block. Text of the signage may be finalized in consultation with the DISCOM.

#### 18. FIRE EXTINGUISHERS:

The firefighting system for the proposed power plant for fire protection shall be consisting of:

- (i) Portable fire extinguishers in the control room for fire caused by electrical short circuits
- (ii) Sand buckets in the control room
- (iii) The installation of Fire Extinguishers should confirm to TAC regulations and BIS

standards. The fire extinguishers shall be provided in the control room housing PCUs as well as on the Roof or site where the PV arrays have been installed.

#### 19. DRAWINGS & MANUALS:

- (i) Two sets of Engineering, electrical drawings and Installation and O&M manual are to be supplied to beneficiaries. Bidders shall provide complete technical datasheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment.
- (ii) Approved ISI and reputed makes for equipment be used.

#### 20. PLANNING AND DESIGNING:

- (i) The bidder should carry out Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labor. The bidder should submit the array layout drawings along with Shadow Analysis Report to the DISCOM for approval.
- (ii) The DISCOM reserves the right to modify the landscaping design, Layout and specification of sub-systems and components at any stage as per local site conditions/requirements.
- (iii) The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder submit three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.

#### 21. DRAWINGS TO BE FURNISHED BY BIDDER AFTER AWARD OF CONTRACT

The Contractor shall furnish the following drawings /documents with each Power Plant.

- (i) O&M Manual/ User Manual
- (ii) General arrangement and dimensioned layout
- (iii) Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc.
- (iv) Structural drawing along with foundation details for the structure.
- (v) Itemized bill of material for complete SV plant covering all the components and associated accessories.
- (vi) Layout of solar Power Array
- (vii) Shadow analysis of the roof

#### 22. SOLAR PV SYSTEM ON THE ROOFTOP FOR MEETING THE ANNUAL ENERGY REQUIREMENT

The Solar PV system on the rooftop of the selected buildings will be installed for PV capacity permissible by Discom as per regulation issued by MPERC.

#### 23. SAFETY MEASURES:

The bidder shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA guidelines etc.



Note: The Technical Standards for Grid Connected SPV Rooftop Plants are revised/updated time to time by Ministry of New and Renewable Energy, New Delhi, the same will also be applicable on issuance of revised / updated standards by MNRE.

## QUALITY CERTIFICATION, STANDARDS AND TESTING FOR GRID-CONNECTED ROOFTOPSOLAR PV SYSTEMS/ POWER PLANTS

Quality certification and standards for Grid-Connected Rooftop Solar PV Systems are essential for the successful mass-scale implementation of this technology. It is also imperative to put in place an efficient and rigorous monitoring mechanism, adherence to these standards. Hence, all components of Grid-Connected Rooftop Solar PV System/ Plant must conform to the relevant standards and certifications given below:

<b>Solar PV Modules</b>	
IEC 61215/ IS 14286	Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
IEC 61701	Salt Mist Corrosion Testing of Photovoltaic (PV) Modules
IEC 61853- Part 1/ IS 16170: Part 1	Photovoltaic (PV) module performance testing and energy rating – Irradiance and temperature performance measurements, and power rating
IEC 62716	Photovoltaic (PV) Modules – Ammonia (NH <sub>3</sub> ) Corrosion Testing (As per the site condition like dairies, toilets)
IEC 61730-1,2	Photovoltaic (PV) Module Safety Qualification – Part 1: Requirements for Construction, Part 2: Requirements for Testing
<b>Solar PV Inverters</b>	
IEC 62109-1, IEC 62109-2	Safety of power converters for use in photovoltaic power systems – Part 1: General requirements, and Safety of power converters for use in photovoltaic power systems Part 2: Particular requirements for inverters. Safety compliance (Protection degree IP 65 for outdoor mounting, IP 54 for indoor mounting)
IEC/IS61683(as applicable)	Photovoltaic Systems – Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75% & 90-100% Loading Conditions)
IEC 62116/ UL 1741/IEEE 1547 (as applicable)	Utility-interconnected Photovoltaic Inverters - Test Procedure of Islanding Prevention Measures



IEC 60255-27	Measuring relays and protection equipment – Part 27: Product safety requirements
IEC 60068-2 / IEC 62093 (as applicable)	Environmental Testing of PV System – Power Conditioners and Inverters
<b>Fuses</b>	
IS/IEC 60947 (Part 1, & 3), EN 50521	General safety requirements for connectors, switches, circuit breakers(AC/DC): a) Low-voltage Switchgear and Control-gear, Part 1: General rules b) Low-Voltage Switchgear and Control-gear, Part 2: Circuit Breakers c) Low-voltage switchgear and Control-gear, Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units d) EN 50521: Connectors for photovoltaic systems – Safety requirements and tests
IEC 60269-6	Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy system
<b>Surge Arrestors</b>	
BFC 17-102:2011	Lightening Protection Standard
IEC 60364-5-53/ IS 15086-5 (SPD	Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment - Isolation, switching and control
IEC 61643-11:2011	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods
<b>Cables</b>	
IEC 60227/IS 694, IEC 60502/IS 1554 (Part 1 & 2)/IEC69947 (as applicable)	General test and measuring method for PVC (Polyvinyl chloride)insulated cables (for working voltages up to and including 1100 V, and UV resistant for outdoor installation)
BS EN 50618	Electric cables for photovoltaic systems (BT(DE/NOT)258), mainly for DC Cables
<b>Earthing/Lightning</b>	
IEC 62561 Series (Chemical earthing) (as applicable)	IEC 62561-1 Lightning protection system components (LPSC) - Part 1: Requirements for connection components

	IEC 62561-2 Lightning protection system components (LPSC) - Part 2: Requirements for conductors and earth electrodes IEC 62561-7 Lightning protection system components (LPSC) - Part 7: Requirements for earthing enhancing compounds
<b>Junction Boxes</b>	
IEC 60529	Junction boxes and solar panel terminal boxes shall be of the thermoplastic type with IP 65 protection for outdoor use, and IP 54 protection for indoor use
<b>Energy Meter</b>	
IS 16444 or as specified by the DISCOMs	A.C. Static direct connected watt-hour Smart Meter Class 1 and 2 - Specification (with Import & Export/Net energy measurements)
<b>Solar PV Roof Mounting Structure</b>	
IS 2062/IS 4759	Material for the structure mounting

Note- Equivalent standards may be used for different system components of the plants.

## Annexure –3A SCHEDULE OF EXPERIENCE

### (Supply & Installation)

S. No.	Details of SPV Systems installed upto the date of submission of bid document	Year	Dept./Agency /Beneficiary for which work carried out	Total kW size of work.	Cost of works in {Amt in Lakhs}	Documentary Attachment at Page No. of Techno-Commercial bid
1	2	3	4	5	6	7
1						
2						
3						
4						
5						
TOTAL:						

[Please attach certificates (Annexure 20) in support from the concerned nodal agency /Govt. Organisation/ MNRE authorised Agency for work executed

For private clients copy of the grid connectivity letter from the Discom should be appended with experience certificate.]

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## Annexure-3(B) & 3 (C) DETAILS OF AFTER SALE SERVICE CENTRES (EXISTING/PROPOSED)

### A. Details of after sale service centres existing in the state of Madhya Pradesh

S. No.	Name of Dealer/Centre	Village	Tehsil	District	Name of contact Person & Phone Number
1	2	3	4	5	6

### B. Details of after sale service centres proposed in the state of Madhya Pradesh.

S. No	Name of Dealer/Centre	Village	Tehsil	District
1	2	3	4	5

Note: This is for information purpose only, final details of After Sales Service Centres can be given later on.

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## Annexure – 4 PRICE BID

(Refer Section-5: To be filled online in .xls format only)

Bidder shall quote rates / costs in the format given below for Design, supply, erection/ installation, commissioning & maintenance of grid connected SPV Power Plants as per guidelines and specifications/standards specified in MNRE grid connected guidelines and amended time to time complete with all accessories, auxiliaries and components F.O.R. site including installation, commissioning and Five Years comprehensive maintenance.

Slab No	Description of Systems Grid connected SPV Power Plants without Battery Bank including FIVE years free comprehensive maintenance	BenchMark Cost(Rs./Wp)	Cost including all taxes & duties etc. (Rs./Wp)
MPMKVVCL, Bhopal(Lot-I)			
1	>1 kW & ≤ 3 kW.	54	
2	>3 kW & ≤ 10 kW.		
3	>10 kW & ≤ 100 kW.	48	
4	>100 kW & ≤ 500 kW.	45	
MPPoKVVCL, Jabalpur(Lot-II)			
1	>1 kW & ≤ 3 kW.	54	
2	>3 kW & ≤ 10 kW.		
3	>10 kW & ≤ 100 kW.	48	
4	>100 kW & ≤ 500 kW.	45	
MPPKVVCL, Indore(Lot-III)			
1	>1 kW & ≤ 3 kW.	54	
2	>3 kW & ≤ 10 kW.		
3	>10 kW & ≤ 100 kW.	48	
4	>100 kW & ≤ 500 kW.	45	

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- The MNRE has fixed Benchmark Cost. The bids with rates for any slab quoted above benchmark cost shall be summarily rejected.
- This information should be filled on-line on e-procurement site in Cover-C (.xls format) only as per procedure. The total figure below the Price Bid (.xls. format) has no purpose for evaluation and the evaluation shall only be done on the basis of slab wise rates quoted by bidder. If Project Cost is submitted in Cover-A and/or Cover-C (Technical Bid) by any Bidder, their offer will be summarily rejected.
- It will be mandatory for Category-A bidders to quote their prices for all the four Slabs (A,B,C& D).
- The Category-B bidders are eligible to execute the Projects upto 10 kW capacity only, therefore, Category-B firms are advised to submit their price bid for Slab-A and Slab-B only. If such firms submit their offers for Slab-C and Slab-D, such offers will not be considered for Evaluation.
- Both category- A & B bidders shall have the option to quote the price for the choice of their Discom or for all the three Discoms.
- Bidder may quote for more than one Discom/Lot. In case they are submitting their offer for more than One Discom/Lot they have to submit the required EMD for each Discom/Lot separately.

## Annexure-5 DEVIATION STATEMENT

Details of Deviations from the Tender are as under:-

S. No	Page No. of Documents	Clause No.	Details of deviations
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>

Note: MPMKVVCL is at liberty to accept or not to accept any deviation. No tender will be accepted with deviation without prior approval from competent authority of MPMKVVCL.

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## Annexure- 6

## TENDER FORM

**Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited****1 Subject:**

Tender for Design, Supply, Installation, testing, Commissioning and Maintenance for 5 Years of grid connected SPV Power Plants in the State of Madhya Pradesh for 2019-20.

**2 Name and full postal address, Contact Number and Email of the firm submitting the proposal****3 To be Addressed to**

Chief General Manager (Procurement),

Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited

‘Nistha Parisar’, Govindpura, Bhopal, M.P. – 462 023

**4 Reference (NIT No):**

NIT No: MD/MK/04/NIT/4810 Dated: 13.04.2020

**5. The fee as per tender has been submitted/deposited as under :**

S.No.	Details Required	Amount	Details
1	2	3	4
1	Cost of Tender document	INR 21,000 +GST	
2	e-procurement Charges	As applicable on the portal	
3	EMD	INR 1 Lakh (Per lot)	

**6. We hereby submit our offer under Category A/B (tick whichever is applicable**



7. We agree to abide by all the conditions as mentioned in Tender notice No..... Dated ..... issued by the Managing Director, MPMKVVCL, Bhopal and (all the pages of which have been signed by us in token of acceptance of the terms mentioned therein).

8. The Costs/Rates for the supply of material installation, commissioning & maintenance thereof are given in the schedule of prices attached herewith.

9. Material will be delivered within delivery period / schedule.

10. The offer is valid for a period of 180 days from the date of opening of technical bids.

11. We also agree to abide by and fulfill all the terms, conditions and provisions of the above mentioned offer document.

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## Annexure- 7

### AGREEMENT

(On Non judicial stamp paper of Rs 500/-)

1. An agreement made this ..... day of ..... Between ..... (hereinafter called the “successful bidder”) which expression shall, where the context so admits, be deemed to include his/ hers successors, executors and administrators, of the one part the and the MPMKVVCL/MPPoKVVCL/ MPPaKVVCL (hereinafter called “the Company”) which expression shall, where the context so admits, be deemed to include his successors in office and assigns) of the other part.
2. Whereas the successful bidder M/s. ....has agreed with the Company to take up the work as indicated by the Letter of Award No..... dated..... and Award of Work Order No..... dated ..... for supply, install, commission and maintenance of Grid Connected SPV Power Plants under “ Rooftop Solar Power Generation Scheme 2019-20” at the beneficiary’s site in the State of Madhya Pradesh in the allowed area. All those articles set forth as per tender document & the Letter of Award issued by the Company at the rates set forth in the said schedule.
3. And whereas the successful bidder has deposited as Security Deposit a sum of Rs. .... as Bank Draft/Banker Cheque/Bank Guarantee No. .... Dated .....  
.....
4. (i) In consideration of the payment to be made by the Company through ..... at the rates set forth in the Schedule hereto appended the successful bidders will duly supply install and provide other ancillary services related to the said articles set forth in ..... And ..... thereof in the manner set forth in the conditions of the tender and contract.  
(ii) The conditions of the tender and contract for open tender enclosed to the tender notice No. .... dated ..... and also appended to this agreement will be deemed to be taken as part of this agreement and are binding on the parties executing this agreement.  
(iii) Letters Nos. .... received from tenderer and letters Nos. .... issued by the Company and appended to this agreement shall also form part of this agreement.
5. We are abide by all terms and conditions as per bid documents.
6. All disputes arising out of this agreement and all questions relating to the interpretation of this agreement shall be decided by the Company and the decision of the Company shall be final.

In witness whereof the parties hereto set their hands on the day of .....

Signature for DISCOM

Signature of the successful  
Bidder.

CE/CGM  
O/o MD, MPCZ/MPEZ/MPWZ

Date:

Date:

Witness 1:  
Witness 2:

Witness-1:  
Witness -2:

## Annexure- 8

### UNDERTAKING TO BE SUBMITTED BY A FIRM FOR FAITHFULLY CARRYING OUT THE ASSIGNED WORK

In consideration of the MD, MPCZ/MPWZ/MPEZ (hereinafter called DISCOM) having authorised us ..... (name of the bidder), office at ..... (hereinafter called the bidder) for installation work of grid connected SPV systems/Plants in Madhya Pradesh and on successful completion of the job (hereinafter referred as grid connected SPV Roof Top Programme the DISCOM having been agreed to disburse the financial assistance due under the programme Empanelled Vendor does hereby undertake to carry out the work as per terms and condition of the Tender document and authorisation letter issued to us by Madhya Pradesh Madhya Kshera Vidyut Vitran Company Limited.

We do hereby further undertake that in case we are unable to carryout out duties as undertaken above. DISCOM would have the right to forfeit the entire /EMD/security amount deposited by us for Grid Connected Rooftop SPV Programme work with them.

We at ..... (Name of the firm) further agree that the undertaking herein contained shall remain in full force and effect for the period of the year from the date of this undertaking or for such period for which this undertaking is executed.

Dated this ..... day of .....

## Annexure- 9: Online Tender Portal Usage Instructions

### Special Instructions to the Contractors/Bidders for the e-submission of the bids online through this eProcurement Portal

1. Bidder should do Online Enrolment in this Portal using the option Click Here to Enroll available in the Home Page. Then the Digital Signature enrollment has to be done with the e-token, after logging into the portal. The e-token may be obtained from one of the authorized Certifying Authorities such as eMudhra CA/ GNFC/ IDRBT/ Mtnl Trustline/ SafeScrip/ TCS.
2. Bidder then logs into the portal giving user id / password chosen during enrollment.
3. The e-token that is registered should be used by the bidder and should not be misused by others.
4. DSC once mapped to an account cannot be remapped to any other account. It can only be Inactivated.
5. The Bidders can update well in advance, the documents such as certificates, purchase order details etc., under My Documents option and these can be selected as per tender requirements and then attached along with bid documents during bid submission. This will ensure lesser upload of bid documents.
6. After downloading / getting the tender schedules, the Bidder should go through them carefully and then submit the documents as per the tender document, otherwise, the bid will be rejected.
7. The BOQ template must not be modified / replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for that tender. Bidders are allowed to enter the Bidder Name and Values only.
8. If there are any clarifications, this may be obtained online through the eProcurement Portal, or through the contact details given in the tender document. Bidder should take into account of the corrigendum published before submitting the bids online.
9. Bidder, in advance, should prepare the bid documents to be submitted as indicated in the tender schedule and they should be in PDF/XLS/RAR/DWF formats. If there is more than one document, they can be clubbed together.
10. Bidder should arrange for the EMD as specified in the tender. The original should be couriered/submitted in person in the office of the Tender Inviting Authority, within the bid submission date and time for the tender.
11. The bidder reads the terms and conditions and accepts the same to proceed further to submit the bids
12. The bidder has to submit the tender document(s) online well in advance before the prescribed time to avoid any delay or problem during the bid submission process.
13. There is no limit on the size of the file uploaded at the server end. However, the upload is decided on the Memory available at the Client System as well as the Network bandwidth available at the client side at that point of time. In order to reduce the file size, bidders are suggested to scan the documents in 75-100 DPI so that the clarity is maintained and also the size of file also gets reduced. This will help in quick uploading even at very low bandwidth speeds.
14. It is important to note that, the bidder has to Click on the Freeze Bid Button, to ensure that he/she completes the Bid Submission Process. Bids which are not Frozen are considered as Incomplete/Invalid bids and are not considered for evaluation purposes.
15. In case of Offline payments, the details of the Earnest Money Deposit(EMD) document submitted physically to the Department (in the Tender Box) and the scanned copies furnished at the time of bid submission online should be the same otherwise the Tender will be summarily rejected.

16. The Tender Inviting Authority (TIA) will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders due to local issues.
17. The bidder may submit the bid documents online mode only, through this portal. Offline documents will not be handled through this system.
18. At the time of freezing the bid, the eProcurement system will give a successful bid updation message after uploading all the bid documents submitted and then a bid summary will be shown with the bid no, date & time of submission of the bid with all other relevant details. The documents submitted by the bidders will be digitally signed using the e-token of the bidder and then submitted.
19. After the bid submission, the bid summary has to be printed and kept as an acknowledgement as a token of the submission of the bid. The bid summary will act as a proof of bid submission for a tender floated and will also act as an entry point to participate in the bid opening event.
20. Successful bid submission from the system means, the bids as uploaded by the bidder is received and stored in the system. System does not certify for its correctness.
21. The bidder should see that the bid documents submitted should be free from virus and if the documents could not be opened, due to virus, during tender opening, the bid is liable to be rejected
22. The time that is displayed from the server clock at the top of the tender Portal, will be valid for all actions of requesting bid submission, bid opening etc., in the e-Procurement portal. The Time followed in this portal is as per Indian Standard Time (IST) which is GMT+5:30. The bidders should adhere to this time during bid submission.
23. All the data being entered by the bidders would be encrypted at the client end, and the software uses PKI encryption techniques to ensure the secrecy of the data. The data entered will not be viewable by unauthorized persons during bid submission and not viewable by any one until the time of bid opening. Overall, the submitted bid documents become readable only after the tender opening by the authorized individual.
24. During transmission of bid document, the confidentiality of the bids is maintained since the data is transferred over secured Socket Layer(SSL) with 256 bit encryption technology. Data encryption of sensitive fields is also done.
25. The bidders are requested to submit the bids through online eProcurement system to the TIA well before the bid submission end date and time (as per Server System Clock).

### **Guidelines to Bidders for Implementation of E-Procurement System & Online Bid Submission**

Note: These conditions will over-rule the conditions stated in the Tender documents, wherever relevant and applicable.

The bidders are required to submit soft copies of their bids electronically on the MP TENDER Portal (<https://mptenders.gov.in>), using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the MP TENDER Portal, prepare their bids in accordance with the requirements and submitting their bids online on the MP TENDER Portal (<https://mptender.gov.in>).

More information useful for submitting online bids on the MP TENDER Portal may be obtained at: <https://mptenders.gov.in>.

#### **1. REGISTRATION**

- a) Bidders are required to enroll on the e-Procurement module of the MP TENDER Public Procurement Portal (URL: <https://mptenders.gov.in>) by clicking on the link “Online bidder Enrollment” on the MP TENDER Portal which is free of charge.

- b) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- c) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the MP TENDER Portal.
- d) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
- e) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- f) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

## 2. SEARCHING FOR TENDER DOCUMENTS

- a) There are various search options built in the MP TENDER Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the MP TENDER Portal.
- b) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the MP TENDER Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- c) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

## 3. PREPARATION OF BIDS

- a) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- b) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- c) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- d) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or "Other Important Documents" area available to them to upload such documents. These



documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

Note: My Documents space is only a repository given to the Bidders to ease the uploading process. If Bidder has uploaded his Documents in My Documents space, this does not automatically ensure these Documents being part of Technical Bid.

#### 4. SUBMISSION OF BIDS

- a) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- b) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- c) Bidder has to select the payment option as “offline” to pay the tender fee / EMD as applicable and enter details of the instrument. However if the site allows for online Tender fee payment, then Bidder may pay Tender fee online. **PAYMENT OF TENDER FEE IS MANDATORY IN ANY CASE.**
- d) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be couriered and must reach the concerned office, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected. However if bidder wants to pay online and that facility is available on the e tender site, then he may pay online too. However, if due to any issue in such online payment does not materialise, then bidder would be responsible to ensure that DD reaches utility office in time.
- e) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
- f) The server time (which is displayed on the bidders’ dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- g) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener’s public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

- h) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- i) Upon the successful and timely submission of bids (i.e. after Clicking “Freeze Bid Submission” in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- j) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

## 5. ASSISTANCE TO BIDDERS

- a) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender. This should be as per timelines (about ‘seek clarification’ start & end dates) given in Tender only.
- b) Any queries relating to the process of online bid submission or queries relating to MP TENDER Portal in general may be directed to the 24x7 MP TENDER Portal Helpdesk.

## Annexure- 10

## FORMAT OF INSTALLATION CERTIFICATE

GSTIN No:	M/s..... Address:	Phone No: Fax No: E-mail:
-----------	----------------------	---------------------------------

Date of Installation:

Subsidy claim Note No:

Name of Beneficiary: .....

Address ..... of ..... Place ..... of ..... Installation: .....

Name of City: ....., Tel. No: ...../Mobile No: .....

Email Id: .....

Aadhaar No....., Consumer. No. in Electricity Bill.....,

Location of Project ..... (Latitude, Longitude in decimal)

Certified that .....kW PV Capacity SPV Roof Top Grid connected Power Plant in reference to MPMKVVCL LOA No: .....Dated: ..... and further sanction letter No: ..... Dated: ..... has been installed and commissioned at the place mentioned and taken over the system by beneficiary in good working condition: The details of material supplied and installed are as under:

S.No.	Item	Make & capacity of each	Quantity	Serial numbers
1	SPV Module of .....Wp each:			
2	Invertor/ PCU			
3	Module Stand			
4	Cable			
5	Lighting Arrestor			
6	Surge Protection device			
7	Other items....			

Signature of Beneficiary:

Signature of Firm's authorised Person  
With seal.

DISCOM Personnel verification.

## Annexure- 10A

## Joint Inspection Report

Certified that ..... kWp Solar Power Plant in reference to MPMKVVCL work order No.. ..... Dated..... has been installed and commissioned at the place of beneficiary i.e. Sh./Smt./Miss.

..... The details of material supplied and installed are as under :

S.No	Details			
1	Solar Structure			
2	Solar Module a) Capacity b) Make c) Nos.			
3	DCDB			
4	ACDB			
5	Solar Inverter	I	II	III
	a) Capacity b) Make c) Nos. d) Reading			
6	Solar Meter & Net Energy Meter	Solar Meter a) Capacity b) Make c) No. d) Reading		Net Meter a) Capacity b) Make c) No. Reading
7	Earthing			
8	LA			
9	Certificate of Electrical Inspector	Attached		
10	Remote Monitoring System Provided	Yes		
11	Instruction Manual, Guarantee Card & Invoice of System Provided to beneficiary	YES / NO		

The above system has been inspected by us jointly on dated ..... and the same was found working satisfactorily and taken over in good condition by beneficiary.

Signature of Beneficiary

Signature of Empaneled Agency

Signature of DISCOM

## Annexure- 10 B

### UNDERTAKING

(To be submitted on Empanelled Agency's letterhead)

Certified that \_\_\_\_\_kWp PV Capacity grid connected SPV Power Plant in reference to MPMKVCLLOA No. ----- dated ----- and further sanction letter No. \_\_\_\_\_dated \_\_\_\_\_ has been installed and commissioned in good condition at \_\_\_\_\_ as per technical specification of Tender document and Letter of Award.

A CMC contract agreement as per the format of tender document has been executed with beneficiary and attached as annexure with this file.

Signature of Authorised Representative of Empaneled Agency

Name

Designation

Address

Contact No.

Email id

## Annexure- 11A

### Compliance with the Code of integrity and No Conflict of interest

Any person participating in a procurement process shall –

- (i) not offer any bribe, reward or gift or any material benefit either directly or indirectly in exchange for an unfair advantage in procurement process or to otherwise influence the procurement process;
- (ii) not misrepresent or omit that misleads or attempts to mislead so as to obtain a financial or other benefit or avoid an obligation;
- (iii) not indulge in any collusion, Bid rigging or anti-competitive behaviour to impair the transparency, fairness and progress of the procurement process;
- (iv) not misuse any information shared between the procuring Entity and the Bidders with an intent to gain unfair advantage in the procurement process;
- (v) not indulge in any coercion including impairing or harming or threatening to do the same, directly or indirectly, to any party or to its property to influence the procurement process;
- (vi) not obstruct any investigation or audit of a procurement process;
- (vii) disclose conflict of interest, if any; and
- (viii) disclose any previous transgressions with any Entity in India or any other country during the
- (ix) last three years or any debarment by any other procuring entity.

Conflict of Interest:-

The Bidder participating in a bidding process must not have a Conflict of Interest. A Conflict of Interest is considered to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws & regulations. A Bidder may be considered to be in Conflict of Interest with one or more parties in a bidding process if, including but not limited to:

- (i) have controlling partners/ shareholders in common; or
- (ii) receive or have received any direct or indirect subsidy from any of them; or
- (iii) have the same legal representative/management consultant for purposes of this Bid; or
- (iv) have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bid of another Bidder, or influence the decisions of the Procuring Entity regarding the bidding process; or
- (v) the Bidder participates in more than one Bid in a bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which the Bidder is involved. However, this does not limit the inclusion of the same subcontractor, not otherwise participating as a Bidder in more than one Bid; or
- (vi) the Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the Goods, Works or Services that are the subject of the Bid; or  
Bidder or any of its affiliates has been hired (or is proposed to be hired) by the procuring entity as engineer-in-charge consultant for the contract.

SIGNATURE & SEAL OF AUTHORISED  
SIGNATORY WITH SEAL

## Annexure- 11B

### Declaration by the Bidder regarding Qualifications Declaration by the Bidder

In relation to my/our Bid submitted to.....for  
procurement of..... in response to their Notice Inviting Bids  
No..... Dated .....

I/we hereby declare that:

1. I/we possess the necessary professional, technical, financial and managerial resources and competence required by the Bidding Document issued by the Procuring Entity;
2. I/we have fulfilled my/our obligation to pay such of the taxes payable to the Union and the State Government or any local authority as specified in the Bidding Document;
3. I/we are not insolvent, in receivership, bankrupt or being wound up, not have my/our affairs administered by a court or a judicial officer, not have my/our business activities suspended and not the subject of legal proceedings for any of the foregoing reasons;
4. I/we do not have, and our directors and officers not have, been convicted of any criminal offence related to my/our professional conduct or the making of false statements or misrepresentations as to my/our qualifications to enter into a procurement contract within a period of three years preceding the commencement of this procurement process, or not have been otherwise disqualified pursuant to debarment proceedings;
5. I/we do not have a conflict of interest as specified in the Act, Rules and the Bidding Document, which materially affects fair competition;

SIGNATURE OF AUTHORISED  
SIGNATORY WITH SEAL

Date:

Name :

Designation:

Address:



## Annexure- 11C

### Additional Conditions of Contract

#### 1. Correction of arithmetical errors

Provided that a Financial bid is substantially responsive, the Procuring Entity will correct arithmetical errors during evaluation of Financial Bids on the following basis:

- i. if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Procuring Entity there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;
- ii. if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- iii. if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (i) and (ii) above.

If the Bidder that submitted the lowest evaluated Bid does not accept the correction of errors, its Bid shall be disqualified and its Bid Security shall be forfeited or its Bid Securing Declaration shall be executed.

#### 2. Procuring Entity's Right to Vary Quantities

(1) If the procuring entity does not procure any subject matter of procurement or procures less than the quantity specified in the bidding documents due to change in circumstances, the bidder shall not be entitled for any claim or compensation except otherwise provided in the bidding documents.

(2) Orders for extra items may be placed by the procuring entity in accordance with the Schedule of Powers as prescribed by the Finance Department, upto 5% of the value of the original contract, if allowed in the bidding documents. The fair market value of such extra items payable by the procuring entity to the contractor shall be determined by the procuring entity in accordance with guidelines prescribed by the administrative department concerned.

(3) Orders for additional quantities may be placed, if allowed in the bidding documents, on the rates and conditions given in the contract and the original order was given after inviting open competitive bids. Delivery or completion period may also be proportionately increased. The limits of orders for additional quantities shall be 50% of the value of goods or services of the original contract.

Provided that in exceptional circumstances and without changing the scope of work envisaged under the contract, a procuring entity may procure additional quantities beyond 50% of the quantity of the individual items as provided in the original work order with prior

approval of the MD,MPMKVVCL and concerned Administrative Department concerned as follows :-

- (i) the procuring entity shall obtain prior approval for revised requirements from the competent authority for reasons to be recorded in writing. Wherever necessary, due to the quantum of orders for additional quantities, the procuring entity shall obtain prior and revised technical, financial and administrative sanctions from the competent authorities;
- (ii) that the additional quantities so procured shall be part and parcel of the work being executed;

SIGNATURE OF AUTHORISED  
SIGNATORY WITH SEAL

## Annexure- 12

## Format of Subsidy Claim Note

GSTIN No:	M/s..... Address:	Phone No: Fax No: E-mail:
-----------	----------------------	---------------------------------

Subsidy claim Note No: Date:

The Managing Director,  
[Address of DISCOM to which note is submitted]

Sir,

Please arrange to issue subsidy to M/s ----- MPMKVCL  
Letter of Allocation (LoA) No. .... Dated .....and Project sanction No:  
..... Dated: ..... Maintenance services for this system shall be provided by  
our local representative M/s./Mr..... (Tel./Mob. No:  
.....).

Details of Beneficiary :.....,  
Place of Installation of System: .....  
Invoice No / Date: .....(As issued to beneficiary Copy  
Enclosed),  
PV Capacity of system installed.....

S. No	Details	Amount:															
1	<div>Total Price of system:</div> <table> <tr> <td>1</td><td>Supply Price including GST</td><td>Rs.</td></tr> <tr> <td>2</td><td>Installation &amp; commissioning price:</td><td>Rs.</td></tr> <tr> <td>3</td><td>Charges for CMC of 5 Years:</td><td>Rs.</td></tr> <tr> <td>4</td><td>Service tax on 2&amp;3</td><td>Rs.</td></tr> <tr> <td>5</td><td>Total:</td><td>Rs.</td></tr> </table>	1	Supply Price including GST	Rs.	2	Installation & commissioning price:	Rs.	3	Charges for CMC of 5 Years:	Rs.	4	Service tax on 2&3	Rs.	5	Total:	Rs.	
1	Supply Price including GST	Rs.															
2	Installation & commissioning price:	Rs.															
3	Charges for CMC of 5 Years:	Rs.															
4	Service tax on 2&3	Rs.															
5	Total:	Rs.															
2	Amount already received as beneficiary share { Balance after deducting MNRE subsidy of the system cost } :																
3	Total admissible subsidy receivable from concerned DISCOM:																
4	Amount presently receivable as per terms & conditions of Tender:																

Firm's Authorized Signature with seal

Certificate from Project Officer, [Concerned DISCOM]

Following are certified in reference to MPMKVVCL, LOA No. \_\_\_\_\_ dated awarded to M/S. ....

The Empanelled Vendor:

1. A CMC contract agreement of Tender Document has been executed with the beneficiary.
2. The material supplied is as per pre-despatch inspection clearance of DISCOM.
3. The Power Plant has been installed & commissioned in good condition as per technical specification of tender document and Letter of Award.
4. The work has been completed on dated: .....{within stipulated period /with a delay of ..... days}.
5. Instruction Manual, Guarantee Card & Invoice of system has been provided to beneficiaries.
6. The performance of the Power plant for 30 days period has been checked and found as per requirement.

Verified for payment of subsidy amount Rs. ----- (Rs. -----  
---- ).

Signature of Project Officer,  
[Concerned DISCOM name], with seal

**Declaration of material proposed for supply under this programme by the Bidder**

[illegible]

SIGNATURE OF AUTHORISED  
SIGNATORY  
WITH SEAL

## Annexure- 14

**QUARTERLY MAINTENANCE & SERVICING REPORT****1. DETAILS OF SOLAR PHOTOVOLTAIC SYSTEM INSTALLED**

1. Supplied by:
2. Date of installation:
3. Servicing period: From ..... to .....

**2. BENEFICIARY PROFILE**

1. Name and address of Beneficiary:

**3. TECHNICAL DETAILS**

1. Module Capacity, make and serial numbers:
2. Inverter Capacity, make and serial no.

**4. CHECK OF THE PRODUCT**

1. Correct inclination and orientation of SPV panel:
2. Cleaning of dust from SPV panel:
3. Interconnection of modules, charge controller etc.:
4. Fuse of charge controller:
5. Working of inverter

**5. DIFFICULTIES IN OPERATION/ PROBLEM FACED BY BENEFICIARY:****6. DIAGNOSIS DETAILS/ REPAIR ACTION:****7. DATE ON WHICH SYSTEM WAS LAST ATTENDED:****8. GENERATION DATA, PR & CUF calculation DURING THE PERIOD****9. REMARKS:**

It is mandatory to submit Installation wise Quarterly Energy Generation Data to respective Discom.

Beneficiary Name & Signature

Date:

Firm's Name & Signature of authorized  
person  
(with rubber stamp)

**Annexure- 15**

Format for certificate of relationship of parent company  
Or affiliate with the bidder

To,

.....

Dear Sir,

Sub: Bid for Implementation of Grid connected Rooftop Solar PV System Scheme against  
NIT:

We hereby certify that M/s.....,M/s.....are the Affiliate(s)/Parent Company of the Bidder as per the definition of Affiliate/Parent Company as provided in this tender document and based on details of equity holding as on seven (7) days prior to the Bid Deadline.

The details of equity holding of the Affiliate/Parent Company/Bidder or vice versa as on seven (7) days prior to the Bid Deadline are given as below:

Name of Bidder	Name of the Affiliate of Bidder / Name of the Parent Company of the Bidder	Name of the Company having common control on the Affiliate and the Bidder	Percentage of Equity Holding of Parent Company in the Bidder

\*Strike out whichever is not applicable.

(Insert Name and Signature of Statutory Auditor or practising Company Secretary of the Bidder)



## Annexure- 16

**UNDERTAKING FROM THE FINANCIALLY EVALUATED ENTITY OR ITS  
PARENT COMPANY / ULTIMATE PARENT COMPANY  
(On the Letter Head of the Financially Evaluated Entity or its Parent  
Company/Ultimate Parent Company)**

Name:

Full Address:

Telephone No.:

E-mail address:

Fax/No.:

To,

.....

Dear Sir,

We refer to the Tender No ..... dated ..... for Design, Supply, Installation, testing, Commissioning and Maintenance for 5 Years of grid connected SPV Power Plants in the State of Madhya Pradesh under “Rooftop Solar Power generation scheme” for 2019-20.

“We have carefully read and examined in detail the Tender, including in particular, Clause ..... of the Tender, regarding submission of an undertaking, as per the prescribed Format at Annexure ..... of the Tender.

We confirm that M/s..... (insert name of bidding company) has been authorised by us to use our financial capability for meeting the Financial Eligibility as specified in Clause .... of the Tender referred to above.

We have also noted the amount of the Performance Guarantee required to be submitted as per Clause of the Tender the ..... (insert name of bidding company) in the event of it being selected as the Successful Bidder.

In view of the above, we hereby undertake to you and confirm that in the event of failure of .....(insert name of bidding company)to submit the Performance Guarantee in full

or in part at any stage, as specified in this tender, we shall submit the Performance Guarantee not submitted by .....(insert name of bidding company).

We have attached hereto certified true copy of the Board Resolution Whereby the Board of Directors of our Company has approved issue of this Undertaking by the Company.

All the terms used herein but not defined, shall have the meaning as ascribed to the said terms under the Tender.

Signature of Authorised Signatory

Common seal of .....has been affixed in my/our presence pursuant to Board of Director's Resolution dated.....

WITNESS

.....

(Signature)

Name.....

Designation.....

.....

(Signature)

Name.....

Designation.....

## Annexure- 17

As per SFMS platform, the bank account details of MPMKVVCL, Bhopal is detailed as below:

- a. Account Name : M P Madhya Kshetra V V Co. Ltd., Bhopal
- b. Bank Name : State Bank of India
- c. Branch name : Commercial Branch, Bhopal (01920)
- d. Branch address : Ground Floor, LHO Building, Hoshangabad Road, Bhopal
- e. Account number: 00000030013970119
- f. IFSC Code : SBIN0001920
- g. GST registration number of MPMKVVCL : 23AADCM6799G2Z4.

## Annexure- 18

Letter of Undertaking to execute a capacity of 3600 KW for Category-A bidders and  
900 KW for Category-B bidders  
(On company letter-head)

To,  
Chief General Manager (Commercial),  
Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited  
'Nistha Parisar', Govindpura, Bhopal, M.P. – 462 023

Dear Sir,

With reference to Tender Document number\_\_\_\_\_ issued on  
\_\_\_\_\_, we M/S\_\_\_\_\_ provided an undertaking that we  
can execute a maximum capacity of 3600 kW/900 kW (3600 kW for Category-A bidder and  
900 kW for Category-B bidders, strike out whichever is not applicable) during the currency  
of this contract.

Firm's Authorized Signature with seal

## Annexure- 19

### Letter of Undertaking to submit Electrical Contractor License (On company letter-head)

To,  
Chief General Manager (Commercial),  
Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited  
'Nistha Parisar', Govindpura, Bhopal, M.P. – 462 023

Dear Sir,

With reference to Tender Document number\_\_\_\_\_ issued on \_\_\_\_\_, we M/S\_\_\_\_\_ provided an undertaking that we will submit Electrical Contractor license of any State across India while executing the Agreement.

Firm's Authorized Signature with seal

Annexure -20

**CERTIFICATE FOR WORK COMPLETION**

It is to certify that M/s.....has completed the work of .....KW Grid connected/Off Grid SPV ground mounted/roof top/solar pump on dated.....against order issued .....dated.....

The performance of the system is good.

Date :

Signature (with seal)  
Authority of SNA/SECI/  
Govt. Organisation/Institutions