

INVITATION OF BIDS on BEHALF OF DELHI DISCOMs

E-TENDER DOCUMENT

FOR

REQUEST FOR SELECTION OF FIRMS FOR EMPANELMENT FOR SUPPLY,
INSTALLATION & COMMISSIONING OF 1 kWp UPTO 500 kWp GRID
CONNECTED ROOFTOP SOLAR POWER PLANTS AT VARIOUS LOCATIONS IN
THE NCT OF DELHI

RFS No: IPGCL/ RFS/ CAPEX-RESCO/ 09 / 2020

**INDRAPRASTHA POWER GENERATION COMPANY
LTD.**

Contracts & Material Department, 1st Floor, 220 KV Sub Station Building,
Pragati Power Station, I P Estate, Ring Road, New Delhi – 110 002

Phone No. 011 2337 0541, 2337 8189

Website: www.ipgcl-ppcl.gov.in

E-tender web Portal of ITI Limited (A Government of India Undertaking)

<https://ipgcl.euniwizarde.com/>

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INTERPRETATIONS

1. Words comprising the singular shall include the plural & vice versa.
2. An applicable law shall be construed as reference to such applicable law including its amendments or re-enactments from time to time.
3. A time of day shall save as otherwise provided in any agreement or document be construed as a reference to Indian Standard Time.
4. Different parts of this contract are to be taken as mutually explanatory and supplementary to each other and if there is any differentiation between or among the parts of this contract, they shall be interpreted in a harmonious manner so as to give effect to each part.
5. The table of contents and any headings or subheadings in the contract has been inserted for case of reference only & shall not affect the interpretation of this agreement.

DISCLAIMER

1. Though adequate care has been taken while preparing the NIT document, the Bidders shall satisfy themselves that the document is complete in all respect. Intimation regarding any discrepancy shall be given to this office immediately. If no intimation is received from any Bidder within Ten (10) days from the date of notification of NIT / issuance of e-Tender documents, it shall be considered that the document is complete in all respect and has been received / acknowledged by the Bidder(s).
2. IPGCL reserves the right to modify, amend or supplement this document.
3. While this tender document has been prepared in good faith, neither IPGCL nor their employees or advisors make any representation or warranty, express or implied, or accept any responsibility or liability, whatsoever, in respect of any statements or omissions herein, or the accuracy, completeness or reliability of information, and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of this document, even if any loss or damage is caused by any act or omission on their part.

Place: New Delhi

Date: _____

PART - I

**INVITATION FOR BIDS (IFB)
&
BID DETAILS**

INVITATION FOR BIDS (IFB) ON BEHALF OF DELHI DISCOMs

REQUEST FOR SELECTION OF FIRMS FOR EMPANELMENT FOR SUPPLY, INSTALLATION & COMMISSIONING OF 1 kWp TO 10 kWp AND ABOVE 10 kWp UPTO 500 kWp GRID CONNECTED ROOFTOP SOLAR POWER PLANTS AT VARIOUS LOCATIONS IN THE STATE OF DELHI

(TWO PART BIDDING e-TENDER)

Under **E-tender web Portal of ITI Limited (A Government of India Undertaking)**
(<https://ipgcl.euniwizarde.com/>)

- 1.0 MNRE (Ministry of New and Renewable Energy, Government of India) desires to implement grid connected rooftop solar PV projects on the roofs of Residential buildings and Residential Welfare Associations/Group Housing societies) as per recent Phase II RTS guidelines issued with Subsidy for Residential category only and Incentives for Distribution Companies based on incremental capacity additions based on base capacity. This tender document is in accordance with MNRE Phase II guidelines vide notification 318/331/2017 dated 20.08.2019.
- 2.0 To implement the RTS activities in respect of the aforesaid Projects, Power Distribution companies (DISCOMs) will lead the implementation of RTS in the state. Three DISCOMs in the Delhi state (BSES Rajdhani Power Ltd., (BRPL), BSES Yamuna Power Ltd., (BYPL) and TATA Power Delhi Distribution Ltd., (TPDDL) shall be the implementing agencies in their respective operational areas.
- 3.0 IPGCL, therefore on behalf of Delhi DISCOMs, invites E-bids from eligible bidders to participate in Request for Selection (RfS) for empanelment of vendors for Site Survey, Design, Installation, Supply, Erection, Testing and Commissioning including Warranty, Operation and Maintenance of Roof Top Solar PV Power System for Residential Consumers in the state of Delhi. This RfS shall be governed by terms of sanction received from MNRE vide F. No. 318/63/2019 Grid Connected Rooftop Dated 20.08.2019 and Notification 318/63/2019 Grid Connected Rooftop dated 04.10.2019 for TPDDL, BYPL and BRPL respectively and any amendments therein issued by MNRE till the date of award.
- 4.0 For the implementation of above-mentioned work, Bidders should submit their bid proposal online complete in all aspect on or before Last date of Bid Submission as mentioned on the Bid Information Sheet.
- 5.0 Bidder shall submit bid proposal along with non-refundable bid processing fee and refundable Bid Bond complete in all respect as per the Bid Information Sheet. Techno-Commercial bids will be opened online as per the Bid Information Sheet online in presence of authorized representatives of bidders who wish to be present online. **Bid proposals received without the prescribed bid processing fees and Bid Bond shall automatically be rejected.** In the event of any date mentioned in bid information is declared a Holiday, the next working day shall become operative for the respective purpose mentioned herein.
- 6.0 Bid documents which include Eligibility criteria, "Technical Specifications", various conditions of contract, formats, etc. can be downloaded from E-tender web Portal of **ITILimited**. **Only the documents submitted at the time of Bid Submission shall be used in evaluation process. Bidders are advised to ensure that all supporting documents are submitted at the time of Bid Submission.**
- 7.0 Any amendment(s)/ corrigendum/ clarifications with respect to this Bid shall be uploaded on IPGCL/ ITI website. The Bidder should regularly follow up for any Amendment/ Corrigendum/ Clarification on the above website's.
- 8.0 The bidding process under this Rooftop scheme is for **30MWp** comprising of CAPEX and RESCO model for both normal roofs as well as Elevated Structures.

A. Category: Total Capacity: 30MW (10 MW allotted for each DISCOM)

S. No.	Category	Proposed Capacity*	Bid Capacity	BRPL	BYPL	TPDDL	Bidding Parameter
1.	CAPEX – A	1 kWp to 3 kWp	1.5 MW	0.50 MW	0.50 MW	0.50 MW	The bidder has to quote Project Cost (INR) inclusive of structure height upto 1m as per Price Bid. The Project Cost must be less than MNRE Benchmark cost.
2.	CAPEX - B	3 kWp to 10 kWp	1.5 MW	0.50 MW	0.50 MW	0.50 MW	The bidder has to quote Project Cost (INR) inclusive of structure height upto 1m as per Price Bid. The Project Cost must be less than MNRE Benchmark cost.
3.	CAPEX - C	10 kWp to 100 kWp	3 MW	1.0 MW	1.0 MW	1.0 MW	The bidder has to quote Project Cost (INR) inclusive of structure height upto 1m as per Price Bid. The Project Cost must be less than MNRE Benchmark cost.
4.	CAPEX – D	100kWp to 500 kWp	3 MW	1.0 MW	1 MW	1.0 MW	The bidder has to quote Project Cost (INR) inclusive of structure height upto 1m as per Price Bid. The Project Cost must be less than MNRE Benchmark cost.
5.	CAPEX - E	1 kWp to 3 kWp elevated	1.5 MW	0.50 MW	0.50 MW	0.50 MW	The bidder has to quote Project Cost (INR) inclusive of structure height upto 1m and cost of structure (per m per kW) as per Price Bid. The total Project Cost must be less than MNRE Benchmark cost. Bids will be evaluated at Project Cost + Structure Cost

							(Additional 2m height)
6.	CAPEX – F	3 kWp to 10 kWp elevated	1.5 MW	0.50 MW	0.50 MW	0.50 MW	The bidder has to quote Project Cost (INR) inclusive of structure height upto 1m and cost of structure (per m per kW) as per Price Bid. The total Project Cost must be less than MNRE Benchmark cost. Bids will be evaluated at Project Cost + Structure Cost (Additional 2m height)
7.	RESCO-A (upto 1 Mtr structure height)	25 kW to 100 kW	3.0 MW	1.0 MW	1.0 MW	1.0 MW	The Bidder has to quote Fixed Tariff for 25 years. The ceiling tariff shall be less than INR 4.5 per kWh
8.	RESCO-B (upto 1 Mtr structure height)	100kW to 500kW	3.0 MW	1.0 MW	1.0 MW	1.0 MW	The Bidder has to quote Fixed Tariff for 25 years. The ceiling tariff shall be less than INR 4.5 per kWh
9.	RESCO-C (Above 1 mtr to upto 3m elevated structure)	25 kW to 100 kW	3.0 MW	1.0 MW	1.0 MW	1.0 MW	The Bidder has to quote Fixed Tariff for 25 years. The ceiling tariff shall be less than INR 4.5 per kWh
10.	RESCO-D (Above 1 mtr to upto 3m elevated structure)	100kW to 500kW	3.0 MW	1.0 MW	1.0 MW	1.0 MW	The Bidder has to quote Fixed Tariff for 25 years. The ceiling tariff shall be less than INR 4.5 per kWh
11.	Open Category		6 MW				

Note:

Group Housing Societies/Residential Welfare Associations (GHS/RWA) etc. for common facilities will be limited 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.

Bidders are requested to quote Minimum Capacities in each DISCOM as per Clause 16 below.

9.0 This is bidding for the NCT of Delhi. As such, there will be only one price for all the bidders in each category (INR Per kWp - Project Cost inclusive or exclusive of Cost of Structure) for Capex Parts or INR per kWh for RESCO Parts, Hence matching of L-1 Price needs to be adhered upon. The lowest cost determined by evaluating the Project Cost for CAPEX A,B,C and D and Project Cost (inclusive of structure height of upto 1m) Plus Structure Cost for additional 2m height for

CAPEX E and F shall be declared as the L1 cost and will have to be matched by other bidders (to be empanelled).

10.0 DISCOM reserves the right for diversion of capacity from one bidder/ category to another (including transfer of unallocated capacity to OPEN Category) for 100% utilization of capacity sanctioned by MNRE, GoI.

11.0 The bidding process under this rooftop scheme is for residential consumers, RWAs and GHS in various categories under CAPEX and RESCO model. Bidder can bid for under various categories as per the eligibility criterion of RfS.

12.0 The detailed scope of work includes:

12.1 Scope of work covers Design, Supply, Installation, Commissioning, Synchronization of Grid Connected Solar Rooftop system including Maintenance and Operation for a period of five years under CAPEX model and 25 years for RESCO model as per the technical specifications and standards notified by MNRE/DISCOM/CEA/CEIG and any other applicable laws including but not limited to regulations notified by Delhi Electricity Regulatory Commission (“DERC”).

12.2 The cost is inclusive of all taxes, duties, packing, forwarding and transportation costs upto the site.

12.3 Wiring up to Distribution Board from the SPV Rooftop system will be in the scope of the successful bidder(s).

12.4 Mounting Structure within the scope of this tender is for flat RCC roofs for CAPEX A,B,C and D and RESCO A and B as well as elevated structures for category CAPEX E and F as well as RESCO C and D. The height of the elevated structure shall not be more than 10ft or 3m from the floor of the roof. The RESCO developer has to quote tariff in the respective RESCO categories as per the Project cost in respective CAPEX categories. The CFA in RESCO A and C shall be limited to MNRE Benchmark Cost prevailing at the time of empanelment or price discovered in CAPEX C, whichever is lower. The CFA in RESCO B and D shall be limited to MNRE Benchmark cost prevailing at the time of empanelment or price discovered in CAPEX D, whichever is lower.

12.5 Site Survey, Design, Engineering, Manufacture, Supply, Storage, Civil work, Erection, Testing & Commissioning of the grid connected rooftop Solar PV Project including Operation and Maintenance (O & M) of the project for a period of 5 years for CAPEX and 25 years for RESCO after commissioning of project.

12.6 If the operation or use of the system proves to be unsatisfactory during the warranty period, the installer shall replace the faulty ones or carry out necessary repairs as per the warranty terms and conditions.

12.7 The beneficiary will have option of installing RTS system through any of these empanelled vendors at net of CFA amount i.e. making payment to the vendors after deducting the eligible CFA amount. The vendor will claim the CFA from the respective DISCOMs under the respective categories. The CFA for residential sector as stated above shall be permissible only if domestic manufactured Solar Panels (using domestic manufactured Solar cells) are used by the beneficiary. The eligible MNRE subsidy will be released depending on the availability of budget released by MNRE, based on MNRE policies and guidelines. Post receipt of CFA amount from MNRE, the DISCOMs shall disburse the CFA to vendors within two weeks.

The empanelled installer will collect firm work order from the purchasers. The subsidy as calculated for Parts under CAPEX & RESCO Model will be released on submission of following documents- (i) Joint Commissioning Report (JCR) as per Annexure-J, (ii) Copy of Insurance Policies as per Clause no. 3 (Part IV).(iii) Claim Letter as per the Annexure – F, (iv) Guarantee certificate on Letter Head of the Vendor, (v) Performance security (of DISCOM Part) for O&M Period, (vi) Performance security (of Consumer Part) for O&M period, certificate regarding submission of same from consumer has to be submitted with claim letter. The bidder shall provide the above document and any other document as may be asked by DISCOM / MNRE for release of subsidy.

13.0 Based on the Bid capacity proposed by the bidder in the bid, Bid Bond/ EMD shall be furnished for different categories(indicating the list of categories as per RfS where project(s) are to be

executed) as listed out in the RfS separately along with the response to RfS as per Clause of Bid Information Sheet. Bid Bond/ EMD shall be enclosed in a sealed envelope and shall be submitted in the office of IPGCL(offline) before the last date of submission of bids. As the bid evaluation is category wise, each bid shall have separate Bid Bond /EMD.

- 14.0 Performance Bank Guarantee (PBG) amount shall be furnished by the successful bidder for different categories and independently for each DISCOM for the allocated capacity to respective DISCOM within 45days from the date of issuance of Letter of Intent (LOI) by the DISCOM. Bidders may note that the time limit for furnishing PBG is not extendable in any case. Detailed Letter of allocation (LOA) shall only be issued to bidders who have submitted PBG. In case the vendors to whom LOI is issued, do not submit the PBG within stipulated time of 45days, the LOI issued stands automatically cancelled and other qualified bidders of respective categories who have accepted to work on L1 prices shall be given opportunity to submit PBG for the respective category. The EMD/BID Bond of bidders whose PBG is not submitted shall be forfeited by IPGCL on request of the DISCOM. The EMD of successful bidders shall be returned by IPGCL on confirmation of submission of PBG from all DISCOM.
- 15.0 The minimum bid capacity in Capex A, E is 30kW and the maximum bid capacity is 200kW. The minimum bid capacity in Capex Part B, and F is 50kW and the maximum bid capacity is 200kW. The minimum bid capacity in Capex Part C is 100kW and the maximum bid capacity is 500kW. The minimum bid capacity in Capex Part D is 300kW and maximum bid capacity is 1500kW. The minimum bid capacity in RESCO Part A and C is 200kW and maximum bid capacity is 500kW. The minimum bid capacity in RESCO Part B and D is 300kW and maximum bid capacity is 1500kW. The open category shall open at the sole discretion of DISCOMs. The vendor shall quote capacity in multiple of 10kW. The vendors must fulfil the financial and technical eligibility criteria of the project category in which they are participating and must execute the project at the L1 cost of that category.
- 16.0 The bidder should submit bids under respective categories with bid capacity for each DISCOM. The minimum Capacity a bidder has to quote in DISCOMs shall be as per Annexure V (annexed Separately with the RfS document). The cumulative sum of all the quoted capacities across three DISCOMs shall be within minimum and maximum quoted capacities defined above. DISCOM reserves the right for diversion of capacity from one bidder/ category to another at L1 rate of the category for 100% utilization of capacity as sanctioned by MNRE, GoI. The bidders are also required to submit O&M cost for additional 5 years period in the sheet provided with this tender. Additionally, the bidders participating in CAPEX C and D also have to submit per m cost of structure in the above sheet, which will not be used in evaluation. A draft PPA and EPC agreement is shared separately. The Bidders are advised to use any format of the PPA or EPC agreement in accordance with the provisions of this RfP.
- 17.0 To ensure quality and post installation services, only manufacturers of solar panels and system integrators fulfilling pre-determined technical and financial criteria would be allowed to participate in the bidding process. The selected bidders shall follow the quality control orders and standards for all components of RTS system and its installation procedure, if any, issued by MNRE from time to time.

BID INFORMATION SHEET

Document Description	REQUEST FOR SELECTION OF FIRMS FOR EMPANELMENT FOR SUPPLY, INSTALLATION & COMMISSIONING OF 1 kWp UPTO 500 kWp GRID CONNECTED ROOFTOP SOLAR POWER PLANTS AT VARIOUS LOCATIONS IN THE UNION TERRITORY OF DELHI
RfS No.& Date	IPGCL/ RFS/ CAPEX-RESCO/ 09/ 2020.
Funding	MNRE Phase II CFA scheme for Residential Consumers including RWAs
Locations	DISCOMs' Operational areas within Union Territory of Delhi.
Downloading of RfS document	From 22-02-2020 at 11:00 Hrs to 13-03-2020 upto 10:30 Hrs for CAPEX Parts (A, D, C, D, E & F) From 22-02-2020 at 11:00 Hrs to 30-03-2020 upto 10:30 Hrs for RESCO Parts (A, D, C, D) A data room containing information of interested consumers has been uploaded on the following website: https://tinyurl.com/wl5awse
Period of work	09 (Nine) Months from the date of LOA or upto 03.01.2021, whichever is earlier.
Pre-bid Conference / Meeting Clarification	28-02-2020 at 11.00 HRS to be held at Radisson Blu Mahipalpur, New Delhi-110037 Pre-bid conference shall be held on 28.02.2020 at 11:00 Hrs. Radisson Blu Mahipalpur, New Delhi-110037 Interested Vendors, who wish to attend the meeting are requested to submit their consent till 27.02.2020 at solaripgcl1@gmail.com with their contact details (Mobile no., official email, company name etc). Max. 02 nos. of persons are allowed from each company. Bidders are requested to send their queries on the tender by 27.02.2020 at solaripgcl1@gmail.com
Last date & Time for Online bid submission and physical submission of offline document at IPGCL office, New Delhi	13-03-2020 for CAPEX and 30.03.2020 for RESCO upto 11:00 Hrs.
Online Bid Opening (Techno-Commercial)	13-03-2020 for CAPEX and 30.03.2020 for RESCO at 11:30 Hrs.
Financial Bid opening	To be intimated later on.

<p>ITI Portal fees Processing Fee Annual Charges</p>	<p>INR 10,000/- only (exclusive of GST i.e. @18%), i.e. INR 11,800/- only</p> <p>INR 5,000/- only as Annual portal fee (exclusive of GST i.e. @18%), i.e. INR 5,900/- only</p>
<p>Bid Processing Fee</p>	<p>CAPEX A&E - INR 5,000/- only (exclusive of GST i.e. @18%), i.e. INR 5900/- only CAPEX B&F – INR 8,000/- only (exclusive of GST i.e. @18%), i.e. INR (9,440/- only CAPEX C, D, RESCO A,B,C and D - INR 18,000/- only (exclusive of GST i.e. @18%), i.e. INR 21,240/- only.</p> <p>The processing fee is to be furnished through Demand Draft (DD), drawn in favor of “IPGCL” payable at New Delhi. It is to be submitted in a separate sealed envelope along with offline documents. The Bid Processing fee is non-refundable.</p> <p>The bidders can also pay the bid processing fee online through the following payment gateway https://www.onlinesbi.com/sbicollect/icollecthome.htm?corpID=8540 After making payment, printout of receipt is to be submitted in a separate envelope along with offline documents.</p>
<p>Bid Bond / EMD</p>	<p>INR 5,00,000/- per MW (Indian Rupees Five Lakhs per MW) separately for each category for the capacity quoted</p> <p>(To be submitted in the form of Bank Guarantee (BG)/ Demand Draft/ FDR along with the bid). Minimum validity period upto 12 Months + 3 months claim period from the Bid deadline, may be extended as per request/ instruction of IPGCL.</p> <p>Exempted for companies registered with DIPP and MSEs registered with NSIC, Government Department and PSUs provided the quoted value of the tender is within the monetary limit for the said unit set by NSIC / State Director of Industries.</p> <p>The bidders can also pay the Bid Bond amount online through the following payment gateway https://www.onlinesbi.com/sbicollect/icollecthome.htm?corpID=8540 After making payment, printout of receipt is to be submitted with bid.</p>
<p>Name, Designation, Address and other details (For Submission of Response to RfS)</p>	<p>GM (C&M), 1st floor 220 Kv Sub Station Building, Pragati Power Station, I.P. Estate, Ring Road, New Delhi - 110 002</p>
<p>Details of persons to be contacted in case of any assistance</p>	<p>G.M. (C&M) - 011-23370541 G.M. (Solar) – 011-23278552</p>

required

AGM (C&M) II – 011-23378739

Er. Sanjeet Jha- 8882495599/ 011-49606060 (For ITI
Portal)

PART –II

INSTRUCTIONS

TO

BIDDERS (ITB)

1. INTRODUCTION

- 1.1 MNRE in principle accorded sanction of 10 MW capacity each to BRPL, BYPL and TPDDL, for promotion of grid- connected roof top solar PV projects in Residential sector and IPGCL has been designated as anchor agency for this scheme and respective DISCOM shall be the implementing agency. The generated solar power may be utilized for self-consumption and the surplus power may be fed to the grid. The scheme aims to reduce the fossil fuel-based electricity and make buildings self- sustainable from the point of electricity, to the extent possible. This scheme with aggregate capacity of 10MWp within each Power Distribution company in the NCT of Delhi envisages installation of grid-connected roof top solar PV projects on the roofs of Residential, RWA/GHS and the subsidy is available broadly in following categories:

Subsidy:

Subsidy shall be available for the following categories:

CFA up to 40 % will be given for RTS systems up to 3 kW capacity. For RTS systems of capacity above 3 kW and up to 10 kW, the CFA of 40% would be applicable only for the first 3 kW capacity and for capacity above 3 kW the CFA would be limited to 20 %. The residential sectors users may install RTS plant of even higher capacity as per their requirement and the respective SERC regulation; however, the CFA would be limited for first 10 kWp capacity RTS plant as mentioned above.

For Group Housing Societies/Residential Welfare Associations (GHS/RWA) CFA will be limited to 20% for installation of RTS plant for supply of power to common facilities. The capacity eligible for CFA for GHS/ RWA will be limited to 10 kWp per house and total not more than 500 kWp, inclusive of RTS already installed on individual houses in that GHS/ RWA at the time of installation of RTS for common activity.

Residential RTS plant would be the solar power system installed mainly on the roof of a residential building having an active residential power connection from the local DISCOM and would also include installations on open contiguous land within the premises of the Residential Building.

The MNRE will provide CFA for implementing of Solar Grid Connected and Small Solar Power Plants from 1kWp to 500kWp capacities, as detailed below:

S. No.	Type of Residential sector	CFA (as percentage of benchmark cost or cost discovered through competitive process whichever is lower)
1.	Residential sector (maximum up to 3 kW capacity)	40 % of benchmark cost**
2.	Residential sector (above 3 kW capacity and up to 10 kW capacity) *	40 % up to 3 kW Plus 20% for RTS system above 3 kW and up to 10 kW
3.	Group Housing Societies/Residential Welfare Associations (GHS/RWA) etc. for common facilities up to 500 kWp (@ 10 kWp per house), with the upper limit being inclusive of	20%

	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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* 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.

** CFA shall be on benchmark cost of MNRE for the state/ UT or lowest of the costs discovered in the tenders for that state/ UT, whichever is lower

- 1.2 As per MNRE vide Notification Number 318/3/2020- Grid Connected Rooftop Solar dated 30th January 2020, “Para 5.1.4 of the operational guidelines for the Phase-II of RTS clearly indicate that the CFA will be calculated as a percentage of benchmark cost or cost discovered through competitive process whichever is lower. Therefore, it is hereby clarified that the rates discovered by the implementing agency through competitive bidding process or the benchmark cost, whichever is lower will be applicable for calculation of CFA under Phase II of grid connected rooftop solar programme for the RTS installed though RESCO mode.” It may be noted that the applicable subsidy amount shall be released directly to successful bidder(s) / developer(s) up on project commissioning, submission all requisite documentation as detailed in this RfS and receipt from MNRE. However, the discovered Project Cost shall not exceed applicable benchmark cost of MNRE. 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.

Sl.No	Capacity	Bench Mark Cost (INR/Wp) Other than Special Category States for FY 2019-2020
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

Subsidy for RESCO

Sl.No	Capacity	CFA to be calculated on basis of the following benchmark
1	RESCO-A (upto 1 Mtr structure height)	MNRE Benchmark prevailing at the time of empanelment or Project Cost discovered in CAPEX C (10-100kW), whichever is lower
2	RESCO-B (upto 1 Mtr structure height)	MNRE Benchmark prevailing at the time of empanelment or Project Cost discovered in CAPEX D (Above 100kW and upto 500 kW), whichever is lower
3	RESCO-C (Above 1 mtr to upto 3m elevated structure)	MNRE Benchmark prevailing at the time of empanelment or Project Cost discovered in CAPEX C (10-100kW), whichever is lower

4	RESCO-D (Above 1 mtr to upto 3m elevated structure)	MNRE Benchmark prevailing at the time of empanelment or Project Cost discovered in CAPEX D (Above 100kW and upto 500 kW), whichever is lower
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2. **BID DETAILS**

2.1 The bidding process under this rooftop scheme is for 30 MWp with 10MWp capacity under each DISCOM in Delhi state for three DISCOMs. IPGCL invites competitive Bids for Empanelment for supply, installation & commissioning of 1 kWp to 500 kWp Grid Connected Rooftop Solar Power Plants at various locations in the Jurisdiction of the three DISCOMs under CAPEX and RESCO Mode. The period of contract is valid for a period **9Months** from the date of Empanelment or 03.01.2021, whichever is earlier. The last date for project sanction is 03.12.2020 for submission of Project Sanction Document

2.2 Bids in CAPEX model for 12MWp (Under three DISCOM operational area)

In CAPEX model, bids are invited from the bidders for the tendered capacity as indicated below based on the Project Cost (INR per kWp). In this part, bidder will be required to quote the Project Cost (and Cost of Structure where applicable) for each category for the capacity indicated in the table. The bidding parameter is given as per table below:

S. No.	Category	Proposed Capacity*	Bid Capacity *	BRPL	BYPL	TPDDL	Bidding Parameter
1.	CAPEX - A	1 kWp to 3 kWp	1.5 MW	0.50 MW	0.50 MW	0.50 MW	The bidder has to quote Project Cost (INR) inclusive of structure height upto 1m as per Price Bid. The Project Cost must be less than MNRE Benchmark cost.
2.	CAPEX - B	3 kWp to 10 kWp	1.5 MW	0.50 MW	0.50 MW	0.50 MW	The bidder has to quote Project Cost (INR) inclusive of structure height upto 1m as per Price Bid. The Project Cost must be less than MNRE Benchmark cost.
3.	CAPEX - C	10 kWp to 100 kWp	3 MW	1.0 MW	1.0 MW	1.0 MW	The bidder has to quote Project Cost (INR) inclusive of structure height upto 1m as per Price Bid. The Project Cost must be less than MNRE Benchmark cost.
4.	CAPEX - D	100kWp to 500 kWp	3 MW	1.0 MW	1 MW	1.0 MW	The bidder has to quote Project Cost (INR) inclusive of structure height upto 1m as per Price Bid. The Project Cost must be less than MNRE Benchmark cost.
5.	CAPEX - E	1 kWp to 3 kWp elevated	1.5 MW	0.50 MW	0.50 MW	0.50 MW	The bidder has to quote Project Cost (INR) inclusive of structure height upto 1m and cost of structure (per m

							per kW) as per Price Bid. The total Project Cost must be less than MNRE Benchmark cost. Bids will be evaluated at Project Cost + Structure Cost (Additional 2m height)
6.	CAPEX – F	3 kWp to 10 kWp elevated	1.5 MW	0.50 MW	0.50 MW	0.50 MW	The bidder has to quote Project Cost (INR) inclusive of structure height upto 1m and cost of structure (per m per kW) as per Price Bid. The total Project Cost must be less than MNRE Benchmark cost. Bids will be evaluated at Project Cost + Structure Cost (Additional 2m height)

Maximum allowable **project cost** under CAPEX model is as per applicable MNRE benchmark project cost. Any bidder quoting more than the maximum allowable project cost(L1 cost) shall be restricted at MNRE Benchmark Cost. Subsidy shall be released at Cost Discovered in the tender or MNRE Benchmark Cost, whichever is lower. Subsidy is on elevated structure is only applicable in Capex Part E and F. The evaluation parameter for CAPEX Part A, B, C and D is the Project Cost alone. The evaluation parameter for CAPEX E,F is Project Cost (inclusive of upto 1m structure height) and structure cost for additional 2m height.

2.3 Bids in RESCO Model for 12 MWp (Under Three DISCOM Operational Areas)

In RESCO model, bids are invited from the bidders for the tendered capacity as indicated below based on the Tariff for duration of 25 years(RESCO Model). In this part, bidder will be required to quote fixed Tariff for each category for the capacity indicated in the table. The maximum allowable Tariff under RESCO category is INR 4.5 per kWh.

S. No.	Category	Proposed Capacity	Bid Capacity *	BRPL	BYPL	TPDDL	Bidding Parameter
1.	RESCO-A (upto 1 Mtr structure height)	25 kW to 100 kW	3.0 MW	1.0 MW	1.0 MW	1.0 MW	The Bidder has to quote Fixed Tariff for 25 years. The ceiling tariff shall be less than INR 4.5 per kWh
2.	RESCO-B (upto 1 Mtr structure height)	100kW to 500kW	3.0 MW	1.0 MW	1.0 MW	1.0 MW	The Bidder has to quote Fixed Tariff for 25 years. The ceiling tariff shall be less than INR 4.5 per kWh
3.	RESCO-C (Above 1 mtr to upto 3m elevated)	25 kW to 100 kW	3.0 MW	1.0 MW	1.0 MW	1.0 MW	The Bidder has to quote Fixed Tariff for 25 years. The ceiling tariff shall be less than INR 4.5 per kWh

	structure)						
4.	RESCO-D (Above 1 mtr to upto 3m elevated structure)	100kW to 500kW	3.0 MW	1.0 MW	1.0 MW	1.0 MW	The Bidder has to quote Fixed Tariff for 25 years. The ceiling tariff shall be less than INR 4.5 per kWh

2.4 Bids in CAPEX and RESCO under Open Category for 6 MW. Any unallocated capacity from other categories may be transferred to Open Category.

The Open Category capacity will be available to such eligible vendors, as per this RFS, who are willing to take up such works at L1 rates achieved through bidding under different categories on first come first serve basis on meeting the eligibility criterion of the category. The subsidy on RESCO A,C shall be on basis of Price discovered in CAPEX C or MNRE benchmark (whichever is lower) prevailing at the time of empanelment. The subsidy on RESCO B and D shall be on basis of Price discovered in CAPEX D or MNRE benchmark (whichever is lower) prevailing at the time of empanelment

2.5 SIZE OF THE PROJECTS:

2.5.1 The size of each project shall be in the range from above 1 kWp to 500 kWp. Bidders can apply for their preferred project sizes under respective project categories (section 2.2 and 2.3), however MNRE subsidy shall be provided as per Clause 1.1 (Part II ITB).

2.5.2 One project under one consumer account number (CA No. of DISCOM) may however comprise of several rooftop units and each roof top unit can separately connect with the grid and may have separate solar meters.

2.5.3 Further, Successful bidders to whom letter of allocation has been issued will be allowed to submit single proposal for any capacity for approval and issuance of sanction letter by Respective DISCOMs as per table below.

S. No.	Category	Minimum Capacity for Project sanction
1.	CAPEX-A	4kW
2.	CAPEX-B	10kW
3.	CAPEX-C	20kW
4.	CAPEX-D	100kW
5.	CAPEX-E	4 kW
6	CAPEX-F	10 kW
7.	RESCO-A	25kW
8.	RESCO-B	100kW
9.	RESCO-C	25kW
10.	RESCO-D	100 kW

2.5.4 Single sanction letter will be issued for the total aggregate capacity submitted by the bidder for approval as per above.

2.6 **BID CAPACITY:**

- 2.4.1 The Bidder shall apply for different categories, in preference order for each DISCOM Bids shall be submitted for the bid capacity in each category as detailed in S. No.8 of IFB.
- 2.4.2 Offer of the Bidders quoting cumulative capacity more than the maximum tendered capacity allowed shall be restricted to the maximum allowed capacity.
- 2.4.3 In exceptional circumstances and at the sole discretion of DISCOM, unutilized capacity (during initial allocation only) can be transferred to other category having demand in excess of declared capacity and total capacity of the category after transfer can be awarded as per clause 1.7 Part III.

3.0 **BID DETAILS**

- 3.1. Bidder must meet the eligibility criteria independently as a Bidding Company. Bidder will be declared as a Qualified Bidder based on meeting the eligibility criteria and as demonstrated based on documentary evidence submitted by the Bidder in the Bid.
 - 3.1.1. Bidder can use the technical and financial strength of its Parent Company to fulfill the Technical and/or Financial Eligibility criteria. In such case, Bidders shall submit an Undertaking from the Parent Company as per **Format - 9** and also furnish a certificate of relationship of Parent Company with the Bidding Company as per **Format - 8**, Company Secretary certificate towards shareholding pattern of the Parent Company and the Bidding Company along with a Board resolution from the Parent Company.

NB: If the bidder's submitted information is found to be false declaration or misrepresentation, the bidder(s) shall be out rightly rejected or debarred or blacklisted from IPGCL / DISCOMs future tenders.

3.2 **E-TENDER**

Instructions to Bidders E-tendering:

1. This tender document has been published on the E-wizard portal of ITI Limited <https://ipgcl.euniwizarde.com>. The bidders are required to submit soft copies of their bids electronically on the E-wizard Portal <https://ipgcl.euniwizarde.com> using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the E-wizard Portal, prepare their bids in accordance with the requirements and submitting their bids online on the E-wizard Portal <https://ipgcl.euniwizarde.com>. More useful information for submitting online bids on the E-wizard Portal may be downloaded from "Download" section available on home page of the ITI Portal.
2. Bidders can do registration via Click on "Register" option which is available on Home Page and the User ID of bidders will be only activated once they upload correct document for verification and send the mail to **ITI Limited** for activation. The Annual registration charges for vendor/supplier are Rs. 5,000/-+18%(GST) per annum (Through e- payment gateway).
3. Bidders are not allowed to use the same PAN card to do registration for different account on same portal i.e. the E-wizard portal of **ITI Limited** <https://ipgcl.euniwizarde.com>.
4. Once the bidder has participated in a tender, the Company/Firm name cannot be changed.
5. Bidders can upload required 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.

- 6 Bidder need to obtain the Class-3 Digital Signature Certificate (Signing + Encryption) for tender submission.
- 7 Bidder can search any tender by clicking on “Live Tender” under search option on Home Page. Once the bidders have selected the tenders they are interested in, they may download the required documents after clicking on “Tender Document”.
- 8 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 of E-wizard portal of **ITI Limited**
Bidder should login to the site well in advance for bid submission so that he/she 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.
- 9 The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 10 Bidder has to select the payment option as required from the drop down to pay the
(i) Tender Processing Fee through e-payment gateway of as per charges mentioned on e-Tender portal Rs.10000/ (non-refundable))+18%(GST).
11. After downloading/viewing the tender schedule, the Bidder should go through them carefully and then submit the documents as per the tender document, otherwise, the bid will be rejected.
- 12 If there are any clarifications, they may be obtained online through the e-Procurement Portal, or through the contact details given in the tender document. It’s mandatory that Bidders should check the published corrigendum for the tender before submitting their final bids.
- 13 Bidder should arrange the EMD as specified in the tender. The original document for EMD fee should be posted/ couriered to Tender Inviting Authority, within the bid submission date and time for the tender.
 - I. The bidder must read the terms and conditions carefully and then accept to proceed further for submission of final bids.
 - II. To avoid any delay or problem during the bid submission process bidder had to submit their proper bid in advance before the final closing time of the tender.
 - III. The bidder can upload any number of documents. However, there is a size limit of 5MB per file for uploading over the portal server. Please make sure that the documents uploaded are legible (75-100 DPI) before submitting the final bid.
 - IV. It is important to note that, the bidder has to click on the Complete Button, to ensure that he/she completes the Bid Submission Process. Bids which aren’t submitted successfully are considered as Incomplete/Invalid bids and are not considered for evaluation.
 - V. Due to any personal issue of Department, Tender Inviting Authority (TIA) will not be responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders.
 - VI. The time that is displayed from the server clock at the bottom of the tender Portal, will be valid for all actions of requesting bid submission, such as tender closing time, bid opening time 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.
 - VII. All the attached documents of bid should be encrypted.
 - VIII. The bidders are requested to submit the proper bids through the online e-Procurement system to the TIA before the final bid submission end date and time (as per Server System Clock).

Any queries relating to the process of online bid submission or queries relating to e-tendering Portal in general may be directed to the e-Wizard Helpdesk of ITI Limited. The contact number for the helpdesk is 8882495599 (Mr. Sanjeet Jha)

3.3 ELIGIBILITY CRITERIA

3.3.1 For CAPEX Part A, B, E and F

A. Eligibility Criteria for CAPEX Part A & E (1 KW to 3 KW) and B &F (Above 3 KW to 10 KW)

1. General Eligibility Criteria

Bidder should have a valid PAN & GST registration certificate.

2. Technical Eligibility Criteria

Bidders should have designed, supplied, installed & Commissioned at Grid Connected Solar PV Power Projects having aggregate capacity not less than 20kW prior to Bid Submission date. Vendor has to submit scanned copy of the Commissioning certificate and Work order/ Contract/ Agreement/ from the Client/ Owner.

Technical Eligibility Criteria not applicable for vendors registered with DIPP / MSEs under Renewable Energy sector

3. Financial Eligibility Criteria

Bidder should have an Annual Turnover or Net worth as indicated below:

The Annual turnover of Rupees 2.0 Crore per MW of the capacity offered in its Bid in any one of the last 3 financial years ending 31.03.2019 subject to the condition that the Bidder should at least have completed one financial year.

OR

Net worth equal to or greater than the value calculated at rate of Rs.1.5 Crore per MW of capacity offered by the Bidder in its Bid. The Computation of Net worth shall be based on unconsolidated audited annual accounts of the last financial year immediately preceding the Bid Deadline. Share premium can be included in the Net- worth calculation in case of listed companies in India only.

Financial Eligibility Criteria not applicable for vendors registered with DIPP / MSEs under Renewable Energy

Vendors registered with DIPP under Renewable Energy sector are eligible to participate in the Tender CAPEX Part A, B, E and F only in line with Office Order of Department for Industrial Policy & Promotions issued vide no. 12 (11)/2017-SI dated 22.06.2017, which says that Central Ministries/ Departments may relax condition of prior turn over & prior experience in Public procurement subject to meeting of quality & technical specifications by Start-ups.

3.3.2 For CAPEX Part C &D and RESCO A, B, C, & D

B. Eligibility Criteria for CAPEX Part C (Above 10 KW to 100 KW), CAPEX Part D (Above 100 KW to 500 KW) and RESCO A & C (25 KW to 100 KW) and RESCO B & D (Above 100 KW to 500 KW)

1. General Eligibility Criteria

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

OR

Limited liability partnership OR Partnership firm OR Sole proprietor.

AND

Bidder should have valid PAN & GST registration certificate.

2. Technical Eligibility Criteria

Bidders should have designed, supplied, installed & Commissioned at Grid Connected Solar PV Power Projects having aggregate capacity not less than 50kW which should have been commissioned prior to Bid Submission date. Vendor has to submit scanned copy of the Commissioning certificate and Work order/ Contract/ Agreement/from the Client/ Owner shall be submitted.

3. Financial Eligibility Criteria

The Bidder should have an Annual Turnover or Net worth as indicated below:

The Annual turnover of Rupees 2.0 Crore per MW of the capacity offered in its Bid in any one of the last 3 financial years ending 31.03.2019 subject to the condition that the Bidder should at least have completed one financial year.

OR

Net worth equal to or greater than the value calculated at rate of Rs.1.5 Crore per MW of capacity offered by the Bidder in its Bid. The Computation of Net worth shall be based on unconsolidated audited annual accounts of the last financial year immediately preceding the Bid Deadline. Share premium can be included in the Net- worth calculation in case of listed companies in India only.

3.3.3 In case of more than one Price Bid submitted by the Bidder, the financial eligibility criteria must be fulfilled by such Bidder for the sum total of the capacities being offered by it in its Price Bid.

The formula of calculation of net-worth shall be as follows:

Net-worth = (Paid up share capital) + {(Free reserves – Share premium) + Share premium of listed companies} - (Revaluation of reserves)-(Intangible assets) - (Miscellaneous expenditure to the extent not written off and carry forward losses).

For the purposes of meeting financial requirements, only unconsolidated audited annual accounts shall be used. However, audited consolidated annual accounts of the Bidder may be used for the purpose of financial requirements provided the Bidder has at least twenty six percent (26%) equity in each company whose accounts are merged in the audited consolidated accounts and provided further that the financial capability of such companies (of which accounts are being merged in the consolidated accounts) shall not be considered again for the purpose of evaluation of the Bid.

Bidders shall furnish documentary evidence as per the **Format-7**(online as well as offline), duly certified by Authorized Signatory and the Statutory Auditor / Practicing Chartered Accountant of the Bidding Company in support of their financial capability.

3.4 BID SUBMISSION BY THE BIDDER

3.4.1 The information and/or documents shall be submitted by the Bidder as per the formats specified in this RfSdocument.

3.4.2 Strict adherence to the formats wherever specified, is required. Wherever, information has been sought in specified formats, the Bidder shall refrain from referring to brochures /pamphlets. Non- adherence to formats and / or submission of incomplete information may be a ground for declaring the Bid as non-responsive. Each format has to be duly signed and stamped by the authorized signatory of the Bidder then submitted in the Techno-Commercial Bid Part.

3.4.3 The Bidder shall furnish documentary evidence in support of meeting Eligibility Criteria as indicated in Clause no. 3.3 to the satisfaction of IPGCL.

Offline submission of documents:

In addition to the above, the bidders are required to submit the following documents physically (offline only) in a Sealed Envelope **separately for each part**, failing which the technical bids will not be opened online.

1. Covering letter as per **Format-1** on the letter head of the bidder.
2. General Particulars as per **Format-2**.
3. Original copy of the Bid Bond as per **format -3** in the form of a Bank Guarantee/ DD / FDR. Check list as per **Format-5** or in case of exemption copy of valid NSIC/ DIC/ MSEs registration/ DIPP registration.
4. DD/ Bankers cheque for bid processing fee (i.e. INR 5,900/-, INR 9,440/- or INR21,240) as applicable, drawn in favour of IPGCL payable at New Delhi against payment of tender processing fee.
5. Original Power of Attorney supplemented with Board resolutions (**as per Format-6**). or Declaration of Authorisation (**as per Annexure-M**)
6. Financial eligibility criterion (as per **format-7**).
7. Certificate for certificate of relationship of Parent Company with the Bidding Company (as per **Format -8**), if required.
8. Undertaking from the Financially Evaluated Entity or its Parent Company/ Ultimate Parent Company (as per **Format -9**), if required.
9. Share Holding certificate (as per **format-10**).

The sealed envelope addressed to The GM (C&M), 1st floor 220 KV Sub Station Building, Pragati Power Station, I.P. Estate, Ring Road, New Delhi - 110 002 superscribed with following:

1. RfS No.: IPGCL/ RFS/ CAPEX & RESCO / 09 /2020.
2. Offer for installation of Solar Power Plant under “Grid Connected Rooftop Solar Power Plant Scheme for Residential buildings”.
3. Validity of the offer: 12 months from the date of techno-commercial bid opening
4. Name and address of the firm.
5. Bid Bond details.
6. Bid Processing Fee details.
7. BID CAPACITY QUOTED: kWp
8. BID QUOTED FOR CAPEX PART: A/ B/ C/D/ E/ F & RESCO PART A/B/C/D.

3.5 BID SUBMITTED BY A BIDDING COMPANY

The Bidding Company should designate one person to represent the Bidding Company in its dealings with IPGCL/DISCOM. The person should be authorized to perform all tasks including, but not limited to providing information, responding to enquires, signing of Bid

etc. The Bidding Company should submit, along with Bid, a Power of Attorney in original (as per Format - 6), authorizing the signatory of the Bid.

3.6 CLARIFICATIONS AND PRE-BID MEETING

- 3.6.1 IPGCL will not enter into any correspondence with the Bidders, except to furnish clarifications on RfS Documents, if necessary. The Bidders may seek clarifications or suggest amendments to RfS online, soft copy by e-mail also to reach IPGCL at the address, date and time mentioned in Bid information sheet.
- 3.6.2 The Bidder(s) or their authorized representative(s) is /are invited to attend pre-bid meeting(s), which will take place on date(s) as specified in Bid information sheet, or any such other date as notified by IPGCL.
- 3.6.3 The purpose of the pre-bid meeting will be to clarify any issues regarding the RfS including in particular, issues raised in writing and submitted by the Bidders.
- 3.6.4 IPGCL is not under any obligation to entertain/ respond to suggestions made or to incorporate modifications sought for.

3.7 AMENDMENTS TO RfS BY IPGCL

- 3.7.1 At any time prior to the deadline for submission of Bids, IPGCL may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the RfS document by issuing clarification(s) and/or amendment(s).
- 3.7.2 The clarification(s) / amendment(s) (if any) shall be notified on website <http://ipgcl-ppcl.gov.in/> and <https://ipgcl.euniwizarde.com> at least Two (2) days before the proposed date of submission of the Bid. If any amendment is required to be notified within Two (2) days of the proposed date of submission of the Bid, the Bid Deadline may be extended for a suitable period of time.
- 3.7.3 IPGCL will not bear any responsibility or liability arising out of non-receipt of the information regarding Amendments in time or otherwise. Bidders must check the website for any such amendment before submitting their Bid.
- 3.7.4 In case any amendment is notified after submission of the Bid prior to the opening of Techno- Commercial Bid due date /time shall be extended and it will be for the Bidders to submit fresh Bids/supplementary bids on date notified by the IPGCL for the purpose.
- 3.7.5 All the notices related to this Bid which are required to be publicized shall be uploaded on <http://ipgcl-ppcl.gov.in/> and <https://ipgcl.euniwizarde.com>

3.8 BIDDING PROCESS

3.8.1 BID FORMATS

- 3.8.1.1** The Bid in response to this RfS shall be submitted by the Bidders in the manner provided in Clause 3.4 of Part - II. The Bid shall comprise of the following:
- (A) Envelope-I (covering letter, bid processing fee and bid bonds etc) (to be submitted off-line) separately for each part.
1. Covering letter as per **Format-1.**
 2. General Particulars as per **Format-2.**
 3. Original copy of the Bid Bond as per **format -3** in the form of a Bank Guarantee/ DD / FDR/ online payment receipt. Check list as per **Format-5** or in case of exemption copy of valid NSIC/ DIC/ MSEs registration/ DIPP registration.
 4. DD/ Bankers cheque/ online payment receipt for bid processing fee (i.e. INR

5,900/-, INR 9,440/- or INR 21,240/- only) as applicable, drawn in favour of IPGCL payable at New Delhi against payment of tender processing fee.

5. Original Power of Attorney supplemented with Board resolutions (**as per Format-6**) or Declaration of Authorisation (**as per Annexure-M**)
6. Financial eligibility criterion (as per **format-7**).
7. Certificate for certificate of relationship of Parent Company with the Bidding Company (as per **Format -8**), if required.
8. Undertaking from the Financially Evaluated Entity or its Parent Company/ Ultimate Parent Company (as per **Format -9**), if required.
9. Share Holding certificate (as per **format-10**).

(B) Techno –commercial documents (to be submitted online only) for each part.

1. Scanned copy of Certificate of incorporation and updated Memorandum of Association.
2. Scanned copy of DIPP / MSE registration certificate under Renewable Energy.
3. Scanned copy of Declaration on bidder's letterhead for Non blacklisting from any Government deptt./ PSU/ SEB's/Delhi DISCOMs.
4. Scanned copy of PAN & GST registration.
5. For meeting technical eligibility criterion: Scanned copy of the Commissioning certificate and Work order/ Contract/ Agreement/ from the Client/Owner.
6. For meeting financial eligibility criterion: Scanned copy Balance sheet showing Annual Turnover or Networth.
7. Scanned copy of acceptance of RfS terms and conditions including amendments & clarification on letter head of the bidder.

(C) Price bid(s) (to be submitted online only) for.

1. The Bidder shall submit online Price Bid for CAPEX Part-A, Part-B, Part-C, Part-D, Part E, Part F and RESCO Part-A, Part-B, Part-C, Part-D in the Format (as applicable).
2. Only online price bids shall be considered.

3.9 BID Submission DATE

The Bidder should submit the offline Bid documents so as to reach the address indicated below by on or before –

for CAPEX Parts (A, B, C, D, E & F) - 13.03.2020 by 11:00 Hrs.

for RESCO Parts (A, B, C & D) - 30.03.2020 by 11:00 Hrs.

GM (C&M),

1st floor 220 Kv Sub Station Building, Pragati Power Station, I.P. Estate, Ring Road, New Delhi - 110 002.

3.10 VALIDITY OF BID

3.10.1 The bid and the Price Schedule included shall remain valid for a period of 12 months from the date of techno-commercial bid opening, with bidder having no right to withdraw, revoke or cancel his offer or unilaterally vary the offer submitted or any terms thereof. In case of the bidder revoking or cancelling his offer or varying any

term & conditions in regard thereof or not accepting letter of allocation, IPGCL shall forfeit the Bid Bond furnished by him on request of the DISCOM. Confirmation regarding the Bid offer validity shall be clearly mentioned in the covering letter.

- 3.102 In exceptional circumstances when letter of allocation is not issued by DISCOM, IPGCL may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. The Bid Bond shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid Bond. A Bidder granting the request will neither be required nor permitted to modify its Bid in any manner.

3.11 METHOD OF BID SUBMISSION

- 3.11.1 Bids are required to be submitted online and offline mode. The offline documents are to be submitted in a single sealed cover envelope namely Envelope-I containing (Covering Letter, Bid Processing Fee and Bid Bonds etc. as referred under clause 3.8.1.1 above). It should be duly sealed and signed.

The envelope should be superscribed as “REQUEST FOR SELECTION OF FIRMS FOR EMPANELMENT FOR SUPPLY, INSTALLATION & COMMISSIONING OF 1 kWp TO 500 kWp GRID CONNECTED ROOFTOP SOLAR POWER PLANTS AT VARIOUS LOCATIONS IN THE NCTOF DELHI &.....kWp Envelope-I (Covering Envelope) along with the “BID DUE DATE”, bid processing fee details, bid bond details, validity of the bid on the envelope.

- 3.11.2 The Bidders have the option of sending their Offline Documents either by Registered Post or Speed Post or Courier or by Hand Delivery, so as to reach IPGCL Office by the Bid Deadline. Documents submitted by telex/ telegram/ fax/ e-mail shall not be considered under any circumstances. IPGCL shall not be responsible for any delay in receipt of the Bid. Any Bid received after the Bid Deadline shall be returned unopened. It should be noted that Offline Document envelope shall not contain any information/ document relating to Price Bid. IPGCL shall not be responsible for premature opening of the Price Bids in case of non-compliance of above.

- 3.11.3 All pages of the offline documents, except for the Bid Bond, and any other document executed on non-judicial stamp paper, forming part of the Bid and corrections in the Bid, if any, must be signed by the authorized signatory on behalf of the Bidder. It is clarified that the same authorized signatory shall sign all pages of the Bid. No change or supplemental information to a Bid will be accepted after the Bid Deadline, unless the same is requested for by IPGCL.

- 3.11.4 If the outer cover envelope or Envelope I (Covering Envelope) is not enclosed and not super scribed as per the specified requirement, IPGCL will assume no responsibility for the Bid’s misplacement or premature opening.

3.12 COST OF BIDDING

The bidder shall bear all the costs associated with the preparation and submission of his offer and the company in no case will be responsible or liable for those costs, under any conditions. The Bidder shall not be entitled to claim any costs, charges and expenses of and incidental to or incurred by him through or in connection with submission of bid even though IPGCL may elect to modify / withdraw the invitation of Bid.

3.13 BID BOND (To be submitted in original form offlineonly)

The Bidder shall furnish Interest Free Bid Bond in the form of Bank Guarantee (BG) / Demand Draft / FDR drawn in favor of “IPGCL ”, payable at NewDelhi/ through online payment gateway. The validity of Bid Bond shall be for a period of 12 months + 3 months claim period from the Bid Deadline. Bid bond shall be submitted separately for each category. The Bid Bond of unsuccessful bidders shall be returned within 30 days from the

date of issuance of Letter of Allocation(s) and confirmation of the same from the DISCOMs. Bid bond(s) of Successful bidder shall be released after the receipt of PBG in the prescribed format and after the receipt of confirmation of their PBG's from their respective DISCOM.

The formula applicable to calculate the Bid Bond amount will be: Bid Bond

amount = INR 5.0 Lakhs X Bid Capacity in MWp

3.13.1 The Bid Bond shall be denominated in Indian Rupees and shall:

- i. At the Bidder's option, be in the form of either a Demand Draft/ FDR/ Bank Guarantee (the List of Banks as indicated in **Annexure –B**).
- ii. be submitted in its original form; copies will not be accepted and remain valid for a minimum period of 12 months + 3 Months claim period from the date of original Techno Commercial bid opening, or beyond any period of extension subsequently requested under Clause 3.10.2.

3.13.2 The Bid Bond shall be forfeited without prejudice to the Bidder being liable for any further consequential loss or damage incurred to IPGCL under following circumstances:

- a. Hundred Percent (100%) of Bid Bond amount of the proposed capacity, if a Bidder withdraws/ revokes or cancels or unilaterally varies his bid of any category in any manner during the period of Bid Validity specified in the RfSdocument.
- b. Hundred Percent (100%) of Bid Bond amount of the proposed capacity, if the Successful Bidder fails to furnish the "Performance Bank Guarantee for any category after 30 days from the date of intimation from the DISCOMs.

3.13.3 Bidders registered with DIPP under Renewables for 1 kW to 10 kW (i.e. CAPEX-A, B, E and F only), MSEs registered for Renewables, Small Scale Industries / National Small-Scale Industries Corporation and Govt. Dept./ PSU shall be exempted from the deposition of Bid Bond, provided the quoted value of the tender is within the monetary limit for the said unit set by NSIC/ State Director of Industries. Bidders seeking exemption should enclose a photocopy of valid registration certificate giving details such as validity, stores and monetary limits failing which they run the risk of their tenders, as ineligible.

3.14 Performance Security/Performance Bank Guarantee (PBG)

(i) In case of CAPEX Part A, Part B, Part C, Part D, Part E and Part F

- i. **For Erection phase to DISCOM**=3 Lacs x Allocated Capacity in MWp for each part and each DISCOM separately. The PBG shall be submitted within 45 days from the date of issue of allocation letter and be valid for 01 year + 3 months. Bidders should submit Single PBG based on the allocated capacity in each category.
- ii. **For O&M phase to DISCOM** =10% of subsidy amount x Capacity installed in MWp for each part and each DISCOM separately. The PBG shall be submitted along with subsidy claim letter and should be valid for 05 years + 3 months from the date of commissioning of project. Bidders should submit Project-wise PBG.
- iii. **For O&M Phase to Customer** = Vendors shall submit PBG of 5% of Project Cost paid by the consumer separately for each project to the respective consumer. The proof of submission of conditional PBG shall be submitted along with subsidy claim letter and PBG should be valid for 05 years+3 months from the date of commissioning of project. The performance security is 1% per year and in case the plant performance as per the terms and condition of the RfS is not achieved then performance security for that year will be forfeited by consumer at the end of the fifth year. Before invoking the performance guarantee by customer on non performance, customer shall take prior approval from the DISCOMs with intimation to the vendor.

(ii) In Case of RESCO Part A, Part B, Part C & Part D

- i. **For Erection phase to DISCOM** = 3 Lacs x Allocated Capacity in MWp for each part and each DISCOM separately. The PBG shall be submitted within 45 days from the date of issue of allocation letter and be valid for 01 year + 3 months. Bidders should submit Single PBG based on the allocated capacity in each category.
 - ii. **For O&M phase to DISCOM** = 2% of subsidy amount x Capacity installed in MWp for each part and each DISCOM separately. The Performance Security shall be submitted along with subsidy claim letter and should be valid for 05 years + 3 months from the date of commissioning of project. Bidders should submit Project-wise PBG.
- a. Any delay in submission of PBG for erection period beyond 45 days from the date of LoI, DISCOM at its sole discretion may cancel the allocated capacity and forfeit 100% of Bid bond. Such Vendors (who have not submitted PBG) shall be debarred from participating in IPGCLs/DISCOMs future tenders for a period as decided by Competent Authority. Part PBG shall not be accepted.
 - b. The Performance security/ Performance Bank Guarantee shall be denominated in Indian Rupees and shall be in the form of either a Demand Draft/ FDR/ Bank Guarantee (the List of Banks as indicated in Annexure –B).
 - c. The PBG for erection shall be forfeited as follows without prejudice to the Bidder being liable for any further consequential loss or damage incurred to DISCOM.
 - (i) If the Empanelled Vendor could not identify the rooftop(s) capacity of 50% of the allocated capacity and submit Project sanction documents, in such case PBG for unidentified allocated capacity shall be forfeited and the unidentified capacity gets cancelled.
 - (ii) If the Empanelled Vendor is not able to commission the projects to the satisfaction of DISCOM, PBG amount, pro-rata to the capacity not commissioned by the Empanelled Vendor. However, Hundred percent (100%) PBG amount furnished for the Sanctioned Capacity, if the Empanelled Vendor fails to Commission the Projects(s) to the satisfaction of DISCOM.
 - (iii) In all the above cases corresponding unidentified/ non-commissioned capacity shall stand cancelled.
 - d. The Performance Security for O&M shall be valid for a minimum period of 5 years + 3 months claim period from the date of commissioning of the projects. The Performance security shall be released after 5 years from the date of commissioning with the compliance of entire obligations in the contract.
 - e. The Performance Security for erection shall be valid for a minimum period of 1 year + 3 months claim period. The Performance security for erection shall be released after completion of empanelled period with the compliance of entire obligations in the contract
 - f. All costs, damages or expenses which DISCOM may have paid or incurred, which under the provisions of the Contract, the Empanelled Vendor is liable/will be liable, will be claimed by the DISCOM. All such claims shall be billed by the DISCOM to the Contractor within 15 (fifteen) days of the receipt of the payment request and if not paid by the Empanelled Vendor within the said period, the DISCOM may, then, deduct the amount from any moneys due i.e., Performance Security or becoming due to the contractor or Subsidy due to the Empanelled Vendor under the contract or may be recovered by actions of law or otherwise, if the Empanelled Vendor fails to satisfy the DISCOM of such claims.

3.15 OPENING OF BIDS

Offline Document Envelope, of the Bidders shall be opened at 11:30 hours on Bid Deadline date at the venue indicated herein above, in the presence of one representative from each of the Bidders who wish to be present.

The bidders are required to submit the offline documents in a Sealed Envelope as per clause 3.8.1.1.A above, failing which the Technical bids will not be opened.

3.16 RIGHT TO WITHDRAW THE RfS AND TO REJECT ANY BID

3.16.1 This RfS may be withdrawn or cancelled by IPGCL at any time without assigning any reasons thereof. IPGCL further reserves the right, at its complete discretion, to reject

any or all of the Bids without assigning any reasons whatsoever and without incurring any liability on any account.

3.16.2 IPGCL reserves the right to interpret the Bid submitted by the Bidder in accordance with the provisions of the RfS and make its own judgment regarding the interpretation of the same. In this regard the IPGCL shall have no liability towards any Bidder and no Bidder shall have any recourse to IPGCL with respect to the selection process. IPGCL shall evaluate the Bids using the evaluation process specified in RfS, at its sole discretion. IPGCL decision in this regard shall be final and binding on the Bidders.

3.16.3 IPGCL reserves its right to vary, modify, revise, amend or change any of the terms and conditions of the Bid before-submission. The decision regarding acceptance of bid by IPGCL will be full and final.

3.17 ZERO DEVIATION

This is a ZERO Deviation Bidding Process. Bidder is to ensure compliance of all provisions of the Bid Document and submit their Bid accordingly. Tenders with any deviation to the bid conditions shall be liable for rejection.

3.18 EXAMINATION OF BID DOCUMENT

3.18.1 The Bidder is required to carefully examine the Technical Specification, terms and Conditions of Contract, and other details relating to supplies as given in the Bid Document.

3.18.2 The Bidder shall be deemed to have examined the bid document including the agreement/ contract, to have obtained information on all matters whatsoever that might affect to execute the project activity and to have satisfied himself as to the adequacy of his bid. The bidder shall be deemed to have known the scope, nature and magnitude of the supplies and the requirements of material and labour involved etc. and as to all supplies he has to complete in accordance with the Bid document.

3.18.3 Bidder is advised to submit the bid on the basis of conditions stipulated in the Bid Document. Bidder's standard terms and conditions if any will not be considered. The cancellation/ alteration / amendment / modification in Bid documents shall not be accepted by IPGCL.

3.18.4 Bid not submitted as per the instructions to bidders is liable to be rejected. Bid shall confirm in all respects with requirements and conditions referred in this bid document.

PART - III
EVALUATION CRITERIA

1. **BID EVALUATION**

The evaluation process comprises the following four steps:

Step I:	Responsiveness check of Techno Commercial Bid
Step II:	Evaluation of Bidder's fulfillment of Eligibility Criteria
Step III :	Evaluation of Price Bid
Step IV :	L1 price matching
Step V :	Successful Bidders(s) selection & PBG Submission

1.1. **RESPONSIVENESS CHECK OF TECHNO COMMERCIAL BID**

The Techno Commercial Bids submitted by Bidders shall be scrutinized to establish responsiveness to the requirements laid down in the RfS subject to Clause 3.3 of Part -II. Any of the following may cause the Bid to be considered "Non-responsive", at the sole discretion of IPGCL:

- a. Bids that are incomplete, i.e. not accompanied by any of the applicable formats inter alia covering letter, power of attorney supported by a board resolution, Bid Bond, etc.;
- b. Bid not signed by authorized signatory and /or stamped in the manner indicated in this RFS;
- c. Material inconsistencies in the information/ documents submitted by the Bidder, affecting the Eligibility Criteria;
- d. Information not submitted in the formats specified in this RFS;
- e. Bid being conditional in nature;
- f. Bid not received by the Bid Deadline;
- g. Bid having Conflict of Interest;
- h. More than one Member of a Bidding Company using the credentials of the same Parent Company;
- i. Bidder delaying in submission of additional information or clarifications sought by IPGCL as applicable;
- j. Bidder makes any misrepresentation.

Each Bid shall be checked for compliance with the submission requirements set forth in this RfS before the evaluation of Bidder's fulfillment of Eligibility Criteria is taken up. Clause 3.3 of Part-II shall be used to check whether each Bidder meets the stipulated requirement.

1.2. **PRELIMINARY EXAMINATION**

1.2.1 IPGCL will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required documents have been furnished, whether the documents have been properly signed and stamped and whether the Bids are otherwise in order.

1.2.2 Arithmetical errors will be rectified on following basis & order:

- a) If there is any 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 amount shall be corrected.
- b) If there is a discrepancy between words and figures, the amount written in words will prevail.

1.3. EVALUATION OF BIDDER'S FULFILMENT OF ELIGIBILITY CRITERIA

Evaluation of Bidder's Eligibility will be carried out based on the information furnished by the Bidder as per the prescribed Formats and related documentary evidence in support of meeting the Eligibility Criteria as specified in Clause 3.3. Non-availability of information and related documentary evidence for the satisfaction of Eligibility Criteria may cause the Bid non-responsive.

1.4. EVALUATION OF PRICE BID

Price Bid of the Qualified Bidders shall be opened online in presence of the representatives of such Qualified Bidders, who wish to be present, on a date as may be intimated by IPGCL to the Bidders through Email. The evaluation of Price Bid shall be carried out based on the information furnished in Financial Bid (Price Bid). The Price Bid submitted by the Bidders shall be scrutinized to ensure conformity with the RfS. Any Bid not meeting any of the requirements of this RfS may cause the Bid to be considered "Non-responsive" at the sole decision of the IPGCL.

1.4.1 Evaluation of CAPEX PART-A, PART-B, PART-C, PART-D, PART-E, PART-F:

- The Price bids for the CAPEX Part-A, Part-B, Part-C, Part-D, Part-E & Part-F shall be evaluated separately.
- In case of a tie, capacity shall be allocated to the bidder having the maximum proposed capacity as per the covering letter. If covering letter has same proposed capacities by vendors then preference shall be given in the following order:
 - Preference shall be given to bidders having higher turnover in case the tie is between General-General or General-DIPP bidder. (General Bidder – Bidder who is submitting documents for meeting financial eligibility criteria)
 - Preference shall be given to bidders having earlier date of registration in case of DIPP-DIPP bidder.
 - In case the financial turnover or date of registration is same, the capacity will be proportionality distributed between vendors
- Total Project cost shall be considered during evaluation as mentioned in **formats annexed with this RfS.**

1.4.2 Evaluation of RESCO PART-A, PART-B, PART-C & PART-D:

- The Price bids for the RESCO Parts shall be evaluated separately.
- The bidders shall quote FIXED TARIFF for 25 years.
- In case of a tie, capacity shall be allocated to the bidder having the maximum proposed capacity as per the covering letter. If covering letter has same proposed capacities by vendors then preference shall be given in the following order:
 - Preference shall be given to bidders having higher turnover
 - Preference shall be given to bidders having earlier date of registration (If turnover is same)
 - In case the the financial turnover or date of registration is the same, the capacity will be proportionality distributed between vendors.

1.5. SUCCESSFUL BIDDER(S) SELECTION

1.5.1 Bids qualifying in Clause No. 3.3 (Eligibility Criteria) Price Bid are evaluated in this stage.

1.5.2 Project Cost (inclusive of structure height of upto 1m) in CAPEX A,B,C and D and Project Cost inclusive of structure in CAPEX E and F (for additional 02 meter height) quoted in Price Bid shall be considered and Ranked from the Lowest (L1) to the highest cost for different CAPEX categories separately.

1.5.3 Allocation of Capacity for various Categories:

All the bidders within the price bracket of (L1 + 25% of L1) shall be offered to match L-1 price. Further, if total no. of empanelled agencies are found to be less than 5 in the acceptable band, then the implementing agency (i.e. IPGCL) may also include those

agencies who fall in $L1+(25+5) \%$ of L1 or $L1+30\%$ of L1, provided they agree to match L1.

- a. **Allocation of Projects for CAPEX PART A, B, C, D, E and F:** Successful bidders shall receive LoI from respective DISCOMs for allocation in each category. The bidders shall submit the PBG to the DISCOM only after which detailed LOA shall be awarded by the DISCOM. The quoted capacity shall be allocated to the successful bidder by each DISCOM individually.

1.5.3.1 Based on rates quoted by the bidders (Capex A,B,C,D,E and F) in the price bid, IPGCL shall arrange the bids in the ascending order. The Lowest cost discovered shall be the L1 rate.

1.5.3.2 Lowest bidder will be declared as the successful bidder. The L1 bidder's quoted capacity shall be allocated to the L1 successful bidder, if the bidder has quoted maximum bid capacity. In case L-1 bidder quoted less than maximum bid capacity, then L-1 bidder will be asked to accept the maximum bid capacity subject to meeting the financial eligibility criterion of all the parts in which L1 has quoted. On acceptance the maximum bid capacity shall be allotted to L-1 bidder. In case L-1 bidder not accepted the maximum bid capacity, then L-1 bidder's quoted capacity shall be allocated to L-1 bidder.

1.5.3.3 For further empanelment, (except L1 bidder) based on the price bid quoted by the bidders, IPGCL shall arrange the bids in the ascending order i.e. L2, L3, L4 _ _ _ _ and so on (L2 being the second lowest quote).

1.5.3.4 All the qualified bidders within the price bracket of $(L1 + 25\% \text{ of } L1)$ or $(L1+30\% \text{ of } L1)$ -In case no. of empanelled agencies are less than 5) of the categories except the L-1 bidder will be given 3 days from the date of notification of discovered Price on IPGCL website (www.ipgcl-ppcl.gov.in) to give their consent to execute the work at L-1 price of that particular category, failing which it will be assumed that they are not interested to match L1 price. After getting the confirmation list of such vendors including L1 shall be sent to DISCOMs for final allocation.

1.5.3.4 In case the vendor (including L-1 bidder) who matches the L-1 project cost but not submitted the PBG as per clause no. 3.14, their letter of intent will be cancelled automatically and the capacity will be allocated to other qualified bidders who matches the L-1 project cost as per merit.

1.5.3.5 The beneficiary will have an option of installing RTS system through any of these empanelled vendors at net of CFA amount i.e. making payment to the vendors after deducting the eligible CFA amount. The vendor will claim the CFA from the respective DISCOM. The CFA for residential sector as stated above shall be permissible only if domestic manufactured Solar Panels (using domestic manufactured Solar cells) are used by the beneficiary.

1.5.3.6 In line with above methodology, DISCOM shall allocate the capacity until the Tender Capacity is fulfilled. The selection process shall stand completed once the Tender Capacity has been achieved.

1.5.3.7 The Letter(s) of Intent (LOI) shall be issued to all such Successful Bidders(s) selected as per the provisions of this Clause 1.5.3.

b. Allocation of Projects Under RESCO Part A, B, C & D

1. Based on the tariff quoted by the bidder in the price bid, IPGCL shall arrange the bids in the ascending order i.e. L1, L2, L3, ... (L1 being lowest)

2. Lowest bidder will be declared as the successful bidder. The L1 bidder's quoted capacity shall be allocated to the L1 successful bidder, if the bidder has quoted maximum bid capacity. In case L-1 bidder quoted less than maximum bid

capacity, then L-1 bidder will be asked to accept the maximum bid capacity subject to meeting the financial eligibility criterion of all the parts in which L1 has quoted. On acceptance the maximum bid capacity shall be allotted to L-1 bidder. In case L-1 bidder not accepted the maximum bid capacity, then L-1 bidder's quoted capacity shall be allocated to L-1 bidder.

3. For further empanelment, (except L1 bidder) based on the Lowest tariff quoted by the bidders, IPGCL shall arrange the bids in the ascending order i.e.L2,L3,L4 _ _ _and soon (L2 being the second lowest quote).
4. All the qualified bidders within the price bracket of (L1 + 25% of L1) or (L1+30% of L1-In case no. of empanelled agencies are less than 5) except the L1 bidder will be given 3 days from the date of notification of discovered Price on IPGCL website (www.ipgcl-ppcl.gov.in) to give their consent to execute the work at L1 Tariff, failing which it will be assumed that they are not interested to match L1 tariff and their capacity shall be allocated to the other successful bidder(s) who wish to match the same. DISCOM start allocating the balance capacity in merit as per above. DISCOM shall allocate the capacity (allocation shall also depend upon the response received & also on DISCOMs sole discretion) until the Tender Capacity is fulfilled. DISCOM as its sole discretion can increase the timeline as indicated above.
5. If none of bidder gives their consent to execute the work at L-1 price of that particular category, 100% capacity of that category will be offered to L-1 bidders. On acceptance and meeting the financial eligibility criterion, the 100% capacity will be awarded to L-1 bidder.
6. In line with above methodology, DISCOM shall allocate the capacity until the Tender Capacity is fulfilled. The selection process shall stand completed once the Tender Capacity has been achieved.
7. The Letter(s) of Intent (LOI) shall be issued to all such Successful Bidders(s) selected as per the provisions of this Clause 1.5.3.

1.5.4 If the Successful Bidder, to whom the LOA has been issued does not fulfill any of the conditions specified in Bid document, then DISCOMs reserves the right to annul/cancel the award of the Letter of Allocation of such Successful Bidder.

1.5.5 IPGCL at its own discretion, has the right to reject any or all the Bids without assigning any reason whatsoever, at its sole discretion

1.5.6 There shall be no negotiation on the quoted price between IPGCL and the Bidder(s) during the process of evaluation.

1.5.7 At any step during the selection of Successful Bidder(s) in accordance with Clause 1.6 (Part III), DISCOM reserves the right to increase/decrease the Tender Capacity of the capacity indicated in Clause 8 (Part I) of the RFS to achieve the balance Tender Capacity and select the Successful Bidder with the lowest Project Cost/ lowest evaluated price amongst the remaining Bids.

1.6. INCREASE/ DECREASE OF BIDDER ALLOCATED CAPACITY

1.6.1 DISCOM reserves the right to increase/ decrease the Bidder(s) Allocated Capacity at the sole discretion of DISCOM on the request of the successful bidder. DISCOM reserves the right to reallocate any remaining capacity to another capacity at its own discretion.

1.6.2 In case capacity is enhanced by DISCOM subject to meeting the financial eligibility criterion of RfS, Successful bidder shall submit the equivalent amount of PBG to DISCOM within 15 days from the date of issuance of letter, failing which enhanced capacity shall stand cancelled.

1.7. TRAFNER OF CAPACITY

Capacities may be transferred from one category to another category after the capacity allocation is made, based on the bidder request / requirement of DISCOM, as per terms and conditions of RfS but such transfer of capacity will be as per L-1 awarded rate for transferee category only.

- 1.7.1 In case a Successful Bidder is facing genuine difficulty like Delay/ non-signing of EPC agreement, New construction/ vertical expansion of buildings, NOCs issues related to DISCOM etc. in execution of project in the category as per letter of allocation, DISCOM shall allow transfer of allocated capacity in full or part.
- 1.7.2 Inter-category capacity transfer shall be as follows:

DISCOM may allow transfer of allocated capacity from one category to another at its sole discretion. However, inter-categorical transfer of allocated capacity shall be done at the discovered project cost/tariff of the transferee category. The CFA amount shall be as applicable for the proposed category.
- 1.7.3 Amended Performance security (PBG pertaining to additional capacity allocated or capacity transferred) shall be submitted by bidder within 15 days from the date of issuance of letter.
- 1.7.4 On bidder's request, the bidder's allocated capacity can be transferred from CAPEX to RESCO and vice-versa based on sole discretion of DISCOM. In such case, discovered rate of the respective category shall be the reference price for capacity execution.
- 1.7.5 DISCOM reserve the rights to transfer unallocated capacities, if any, from CAPEX to RESCO or vice-versa.
- 1.7.6 DISCOM shall transfer unallocated capacity to other categories in proportion of Tendered Capacity in each category. The DISCOM shall first allocate the quoted capacity or the minimum capacity (whichever is lower) to each eligible vendor till the remaining capacity is exhausted. The process shall be repeated till the entire capacity is exhausted.

Note: It is the prerogative of DISCOM to increase/ decrease/ transfer the Successful Bidder allocated capacity on bidder's request.

2. NOTIFICATION TO SUCCESSFUL BIDDERS

The name of empaneled vendor shall be notified indicating the allocated capacity and the offered price on DISCOM's website and also shall be notified individually through Letter of Intent (LOI) by DISCOM & shall be given 45 days time for submission of PBG for issuance of detailed Letter of Allocation.

3. PROJECT ALLOCATION AND SANCTION

- 3.1 DISCOM shall share list of interested consumers, if available. However, in their own interest vendors shall identify consumers on their own.
- 3.2 The Successful Bidders selected as described in Clause 1.5 above shall be issued Letter of Allocation (LOA) indicating the allocated capacity & Project Cost, etc. The bidders who have been notified as Successful Bidders, shall be given 9 months from the date of issue of allocation letter or 03.01.2021 whichever is earlier for execution of allotted capacity.
- 3.3 Onus of locating the buildings/rooftops and completing the other documentation like finalizing the Project report and entering into agreements with the rooftops owners lies with

the Successful Bidder /Developer within the above-mentioned time frame even for the buildings/rooftops identified by DISCOM for preferential installation.

3.4 The successful bidders/ developers shall submit the project sanction documents to DISCOM for release of sanction letter. The last date for submission of project sanction document is 03.12.2020.

3.5 After submission of Project Sanction Documents by the Successful Bidder/ Project Developer and accepted by DISCOM, The DISCOM will issue the Sanction Letter(s) for the Project (s) indicating the CFA amount (s) which will be disbursed in line with the provisions of the RfS document. The Bidder shall complete the design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of each project within 9 months from the date of issue of letter of allocation or 03.01.2021, whichever is earlier.

4. SUBSIDY DISBURSEMENT

Disbursement of Central Financial assistance (CFA) or Subsidy shall be done by respective DISCOM on completion of the project, verification by DISCOM/ third party inspector empaneled by DISCOM and receipt/availability of the CFA. Copies of relevant documents after joint inspection shall also be uploaded to DISCOM solar rooftop web portal along with ProjectReport, photographs and other required documents as per the check list.

5. OTHER CONDITIONS

5.1 Bidder on behalf of the building owner has to obtain all the necessary approvals/ Consents/ Clearances required for Erection, Testing, Commissioning and O&M of the project including Grid connectivity as per Net Metering guidelines. IPGCL/DISCOM shall not have any responsibility in this regard.

5.2 TAX EXEMPTIONS:

Price bids are invited inclusive of Taxes and duties. However, Tax exemptions including certificates of any sort, if available may be dealt with the concerned Department by the bidder. IPGCL/DISCOM in no case will be responsible for providing any tax exemptions to the bidder.

5.3 ELIGIBILITY OF STAND ALONE SYSTEM and HYBRID SYSTEM

5.3.1 Standalone and hybrid system are not allowed under this scheme. The system should be grid-interactive.

5.4 REQUIREMENT OF APPROVALS ON MAKES OF THE COMPONENTS:

For projects covered under CFA, only indigenously manufactured PV panels (both cells and modules) should be used.

5.5 OPERATION OF THE SYSTEM DURING WEEKENDS AND GENERAL HOLIDAYS AND CALCULATION OF CUF:

5.5.1 During grid failure, the SPV system stops generating. Any instances of grid failure need to be mentioned in the monthly report and those instances need to be authorized by local DISCOM. Then the period will be excluded in calculation of CUF.

5.6 EMPANELED VENDORS FOR SUPPLY AND INSTALLATION OF RTS PROJECTS

5.6.1 Install RTS plant within the time frame decided by the DISCOMs.

5.6.2 Vendors for supply and installation of the RTS shall establish a service center in each District. In case if it is not economically viable for an individual vendor then Group of vendors can establish service center in each District. Their contact details will be made available on the website of the DISCOMs.

5.6.3 These service centres have to provide services to the RTS owners within the timelines decided by the DISCOMs, free of cost for first five years (Warranty period) of

commissioning of the RTS.

- 5.6.4 Non-performing/Under-performing PV Panels will be replaced free of cost in the warranty period. Non-compliance of the service standards by the vendor will make it ineligible for future work orders by the Government.

6. TIME OF COMPLETION OF SANCTIONED CAPACITY

The empaneled vendor shall complete the roofs identification, submission of project sanction documents as per the requirement of Engineer-in-Charge design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of sanctioned project(s) within 9 months from the date of issue of allocation letter (s) or 03.01.2021 whichever is earlier. No CFA shall be given to any vendor on project commissioning after the timelines mentioned above.

7. INSPECTION AND AUDIT BY THE DISCOM

The Successful bidder shall permit DISCOM to inspect the Successful bidder's site, accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the DISCOM, if so required by the DISCOM anytime.

8. COMMISSIONING /COMPLETION CERTIFICATE:

8.1 Application for completion/ commissioning certificate:

When the Successful bidder fulfils his obligation under the Contract, he shall be eligible to apply for Completion/ Commissioning Certificate. The Engineer-in-Charge shall normally issue to the Successful bidder the Completion Certificate within one month after receiving any application therefore from the Successful bidder after verifying from the completion documents and satisfying himself that the Work has been completed in accordance with and as set out in Contract documents.

8.1.1. DOCUMENT SUBMISSION FOR ISSUANCE OF COMMISSIONING / COMPLETION CERTIFICATE:

For the purpose of above the following documents will be deemed to form the completion documents:

- a. Checklist for inspection of Roof Top SPV power plants as per DISCOM format.
- b. Project completion certificate (Joint Commissioning Report).

8.1.2. FINAL DECISION AND FINAL CERTIFICATE:

Upon completion of 5 years of O&M and subject to the Engineer-in-Charge being satisfied, the Engineer-in-Charge shall (without prejudice to the rights of the DISCOM to retain the provisions of relevant Clause hereof) issue a certificate herein referred to as the Final Certificate to that effect and the Successful bidder shall not be considered to have fulfilled the whole of his obligations under Contract until Final Certificate shall have been issued by the Engineer-in-Charge notwithstanding any previous entry upon the Work and taking possession, working or using of the same or any part thereof by the Owner of Roof/ DISCOM.

9. CORRUPT OR FRAUDULENT PRACTICES

DISCOM requires that Successful Bidders / Developers should follow the highest standard of ethics during the execution of contract. In pursuance of this policy, DISCOM:

defines, for the purposes of this provision, the terms set forth as follows:

“corrupt practice” means offering, giving, receiving or soliciting of anything of value to influence

the action of a public official in the bid process or in contract execution; and

“fraudulent practice” means a misrepresentation of facts in order to influence a bid process or the execution of a contract to the detriment of the IPGCL/Govt. scheme, and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non-competitive levels and to deprive the IPGCL of the benefits of free and open competition; will declare a firm ineligible/debarred, either indefinitely or for a specific period of time, a GOVT contract if at any time it is found that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a Government / IPGCL schemes.

10. DEBARRED FROM PARTICIPATING IN IPGCL’S ROOF TOP TENDER

- 101 IPGCL reserves the right to carry out the performance review of each Bidder from the time of submission of Bid onwards. In case, it is observed that a bidder has not fulfilled its obligations in meeting the various timelines envisaged, in addition to the other provisions of the RFS, such Bidders may be debarred from participating in any future tender for a period as decided by the competent authority of IPGCL.
- 102 The Successful bidder must ensure that the ROOF TOP SOLAR PV SCHEME Subsidy is available for newly commissioned projects i.e. for the projects whose construction/ dispatch of equipment’s have been started only after the issue of sanction letter/allocation letter. Any roofs on which projects has been installed or commissioned before the issue of allocation letter/sanction letter shall be construed as fraudulent activity in which case Successful bidder(s) may be debarred from participating in future tender for a period as decided by the Competent authority. However, such locations may be used for installation of additional capacity with the prior approval of competent authority.

PART - IV

GENERAL CONDITIONS OF

CONTRACT (GCC)

1 SCOPE OF WORK

- 1.1 To be carried out on 'Turn Key Basis' which includes identification of beneficiary of the residential category, survey of the site for its feasibility considering the shadow free space, sanctioned load of the beneficiary by the DISCOM, design, supply of grid connected solar photovoltaic system with all other accessories, equipment and protection devices, installation, testing, commissioning and maintenance services including cleaning of solar PV modules at least twice in a month for 5 years for Capex Model and 25 years for RESCO model, with free replacement warranty on spare parts against manufacturing defects for five years.
- 1.2 Identification and Survey of prospective beneficiaries and registration of the SPV project with BRPL/BYPL/TPDDL
- 1.3 Obtaining No objection certificate/ net metering connectivity agreements from concerned DISCOM for grid connectivity. The Net Meter must be in accordance with the net metering regulations announced by the DISCOM in its latest net metering regulations including Future Amendments if any.
- 1.4 The work covers Design, supply, installation, commissioning and comprehensive maintenance for Five (5) years for Capex Model and Twenty Five (25) years for RESCO model.
- 1.5 The termination of solar plant near to the location of existing meter shall be in the scope of the Empanelled Agency, however, installation of meter shall be carried out by DISCOM. Installation of Remote Monitoring hardware / facility with necessary dongle etc. which will be able to communicate to DISCOM server. The cost of the data pack and internet connectivity shall be the responsibility of the Vendor for the Comprehensive AMC period of 5 years. The Bidder shall provide rights to DISCOM to access the performance data of the inverter by sharing the user id and the Password, as and when required, for DISCOM to monitor the performance any time. The system should have feature of open API for inbuilt or external data loggers for all plants.
- 1.6 Design, supply, civil work, erection, testing and commissioning of SPV grid connected Power Plant as per schedule.
- 1.7 The selected bidders shall follow the quality control orders and standards for all components of RTS system and its installation procedure, if any, issued by MNRE from time to time.
- 1.8 Establishing at least one no. of "After Sales Service Centres" in each allotted circle / District / Area of Coverage of DISCOM to the empanelled agency to cater the maintenance needs of beneficiaries. In case if it is not economically viable for an individual vendor then Group of vendors can establish service Centre in each District. Their contact details will be made available on the website.

Note:

Net Meter/Bi-directional meter, supply after its testing and installation shall be done by concerned DISCOM. Empanelled agency are only required for co-ordination for installation of the meter.

2 PROJECT COST

- 2.1 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 covers all the obligations mentioned in the Bidding Documents in respect of Design, Supply,

Erection, Testing and Commissioning including Warranty, Operation & Maintenance including cleaning of solar PV modules at least twice in a month (for a period of 5 years for Capex model and 25 years for RESCO Model, goods and services including spares required if any during 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.

2.1.1 The Project cost quoted for CAPEX is on lump sum turnkey basis and the bidder is responsible for the total Scope of work described at Clause 1 above.

2.1.2 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. No escalation will be granted on any reason whatsoever. 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.

2.1.3 The Project 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 by roof top owner.

2.1.4 The Operation & Maintenance of Solar Photovoltaic Power Plant would include 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.

2.1.5 The Project cost shall be specified in sanction letter for each project category. The project cost shall be in accordance with all terms, conditions, specifications and other conditions of the Contract as accepted and incorporated into the sanction letter.

3 INSURANCE

3.1 The 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 and storage of materials at site, erection, testing and commissioning.

3.2 Before commencement of work, the Vendor shall also take insurance for Third Party Liability covering loss of human life, engineers and workmen and also covering the risks of damage to the third party/ material/ equipment/ properties during execution of the Contract. The 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 bidder.

3.3 The vendor shall also take appropriate insurance during O&M period.

3.4 The Insurance covers as mentioned in clause no. 3.1, 3.2 & 3.3 are mandatory and in case of any violation of not taking Insurance Cover may result in imposition of Penalty. Penalty shall be deducted from the Vendors claim for subsidy as under and the subsidy, in such cases shall be released only on submission of Indemnity Bond:

1. Rs.5,000/per site - for plants having capacity >1-10kWp.

2. Rs.10,000/per site - for plants having capacity >10-100kWp.

3. Rs.20,000/per site - for plants having capacity >100kWp.

The provision of penalty for not taking insurance is one time only, on repetition of the same, the sanctioned of the particular site will be cancelled

3 WARRANTIES AND GUARANTEES

The Bidder shall warrant that the goods supplied under this contract are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials. The bidder shall provide warranty covering the rectification of any and all defects in the design of equipment, materials and workmanship including spare parts for a period of 5 years (For Capex) and 25 years (for RESCO) from the date of commissioning. The successful bidder has to transfer all the Guarantees/ Warranties of the different components to the Owner of the project. The responsibility of operation of Warranty and Guarantee clauses and Claims/ Settlement of issues arising out of said clauses shall be joint responsibility of the Successful bidder and the owner of the project and DISCOM will not be responsible in any way for any claims whatsoever on account of the above. The RESCO players shall ensure warranty of material and workmanship for 25 years.

4 TYPE AND QUALITY OF MATERIALS AND WORKMANSHIP

- 5.1 The design, engineering, manufacture, supply, installation, testing and performance of the equipment shall be in accordance with latest appropriate IEC/ BIS as detailed in the Part - VII (Technical specifications) of the bid document. Where appropriate Indian Standards and Codes are not available, other suitable standards and codes as approved by the MNRE shall be used.
- 5.2 The specifications of the components should meet the technical specifications mentioned in Part - VII.
- 5.3 Any supplies which have not been specifically mentioned in this Contract but which are necessary for the design, engineering, manufacture, supply & performance or completeness of the project shall be provided by the Bidder without any extra cost and within the time schedule for efficient and smooth operation and maintenance of the SPV plant.

5 OPERATION & MAINTENANCE (O&M) GUIDELINES TO BE MANDATORILY FOLLOWED BY BIDDERS

- 6.1 The bidder shall be responsible for all the required activities for successful operation and maintenance of the Rooftop Solar PV system for a period of 5 years for projects under Capex Parts and for a period of 25 years under RESCO Parts from the date of commissioning of the plant.
- 6.2 For all system sizes, below mentioned guidelines, shall be followed as per RfS.
 - 6.2.1 O&M of Solar Power Plant shall be compliant with grid requirements to achieve committed energy generation.
 - 6.2.2 Ensure availability of qualified and experienced engineer/ technicians during the 5 years of O&M period at project site under Capex model and 25 years under Resco Model.
- 6.3 Periodic cleaning of solar modules. The modules shall be cleaned with a periodic interval of 15 days or as and when required as per actual site conditions. This shall be supported by providing geo-tagged photographs of the site before and after cleaning of the modules. It's the responsibility of the bidder to get the modules cleaned during O&M Period. Roof Top Owner is responsible for such obligation of bidder so as to achieve guaranteed CUF/PR.
 - 6.3.1 Periodic checks of the Modules, PCUs and BoS shall be carried out as a part of routine preventive and breakdown maintenance.
 - 6.3.2 Immediate replacement of defective Modules, Invertors/PCUs and other equipment as and when required. Any change in the plant post net-metering shall be intimated by the bidder to DISCOM.

- 6.3.3 Supply of all spares, consumables and fixtures as required. Such stock shall be maintained for all associated Equipments and materials as per manufacturer's / supplier's recommendations.
- 6.3.4 All the testing instruments required for Testing, Commissioning and O&M for the healthy operation of the Plant shall be maintained by the Bidder. The testing equipments must be calibrated once in a year from NABL accredited labs and the certificate of calibration must be kept for reference as required.
- 6.3.5 If negligence/ mal-operation on part of the Bidder's operator results in failure of equipment, such equipment should be repaired/ replaced by the Bidder free of cost.
- 6.3.6 Co-ordination with Owner / DISCOM / CEIG as per the requirement for Joint Metering Report (JMR). The person in charge present at site from bidder's side shall take a joint meter reading in the presence of rooftop owner on a monthly basis.
- 6.3.7 Online Performance Monitoring, controlling, troubleshooting, maintaining of logs & records. A maintenance record register is to be maintained by the operator with effect from Commissioning to record the daily generation, regular maintenance work carried out as well as any preventive and breakdown maintenance along with the date of maintenance, reasons for the breakdown, duration of the breakdown, steps taken to attend the breakdown, etc.
- 6.3.8 An agreement will be signed between the beneficiary and Bidder for any kind of harm/incident at site, there will be no liability of DISCOM. It will be settled between the beneficiary and bidder itself.
- 6.3.9 If any jobs covered in O&M Scope as per RFS are not carried out by the contractor/ Bidders during the O&M period, the Engineer-In-Charge shall take appropriate action as deemed fit. DISCOM reserves the right to make surprise checks/ inspection visits at its own or through authorized representative to verify the O&M activities being carried out by the Bidder. Failure to adhere to above guidelines will result in penal action including debarring from participation in next tender.

6 METERING AND GRIDCONNECTIVITY

Metering and grid connectivity of the RTS PV system under this scheme would be the responsibility of DISCOM. Solar Meter and Net Meter/ Bi-Directional Meter (Smart Meter) shall be supplied and installed by respective DISCOM and necessary charges shall be paid by the beneficiary as per DERC (Net Metering for Renewable Energy) Regulations, 2014.

7 PLANT PERFORMANCE EVALUATION

The successful bidder shall be required to meet minimum guaranteed generation with Performance Ratio (PR) at the time of commissioning and related Capacity Utilization Factor (CUF) as per the GHI levels of the location during the O&M period. PR should be shown minimum of 75% at the time of inspection for initial commissioning acceptance to qualify for release of applicable CFA. Minimum Annual generation guarantee of 1100 units per kWp per year should be maintained after considering the degradation of solar PV modules for a period of 5 years after considering the degradation of modules for fulfilling one of the conditions for release of PBG. The PR will be measured at Inverter output level during peak radiation conditions.

8 Project Completion Report(PCR)

The bidder shall submit the Project Completion Report after commissioning of the project as per the Scope of RFS to DISCOM as per the Format given in **Annexure E**.

9 PROJECT INSPECTION

The project progress will be monitored by DISCOMs and the projects will be inspected for

quality at any time during commissioning or after the completion of the project either by officer(s) from DISCOM or any agency/ experts designated / authorized by DISCOM from time to time. DISCOM shall depute a technical person(s) from its list of empanelled experts/ agencies updated from time to time for inspection, Third party verification, monitoring of system installed to oversee, the implementation as per required standards and also to visit the manufacturer's facilities to check the quality of products as well as to visit the system integrators to assess their technical capabilities as and when required. The cost of Inspection shall be borne by Vendor only. The projects shall be inspected by DISCOM officials or any other agencies/bodies to be notified by DISCOM on time to time. The Implementing agency may inspect the ongoing installation or installed plants. In case the systems are not as per standards, non-functional on account of poor quality of installation, or non-compliance of AMC, the implementing agency reserves the right to blacklist the vendor. Blacklisting may inter-alia include the following: -

- a. The Vendor/Firm will not be eligible to participate in tenders for Government supported projects.
- b. In case, the concerned Director(s) of the firm/company joins another existing or starts/ joins a new firm/company, the company will automatically be blacklisted.

10 CANCELLATION OF SUBSIDY

DISCOM will not release the subsidy for any shortcomings in commissioning as per technical specifications mentioned or for performance ratio (PR) below the specified limit (75%) after commissioning. Also PBG shall be forfeited in case specific generations falls below 1100 units per kW per year during entire O&M period of 5 years from the date of commissioning after considering the degradation of Solar PV modules. The DISCOMs can deduct any pending payments from the PBG or the Subsidy.

11 APPLICABLE LAW

The Contract shall be interpreted in accordance with the laws of the Union of India.

12 SETTLEMENT OF DISPUTE

- 12.1 All disputes and differences arising out of or under the contract including, however, without prejudice to the generality of the aforesaid, any question regarding the existence, validity or termination, in respect thereof, the parties at the first instance shall endeavor to resolve such dispute or differences amicably by mutual consultation.
- 12.2 If the parties fail to resolve, the disputes or differences amicably by mutual consent, within 45 days of its arising, the disputes or differences shall be referred to arbitration either party may refer the disputes or differences to arbitration as provided hereinafter, by giving notice in writing to the other party of its intention to refer the disputes or differences to arbitration and such arbitration proceedings shall commence with the receipt of the aforesaid notice by the other party. Any dispute in respect of which a notice of intention to refer the same to arbitration has been given in terms of sub clause 13.1, shall be finally settled by arbitration.
- 12.3 For all grievances and disputes arising between vendor and consumer, in the first instance shall be endeavored to be settled amicably. The parties shall approach DISCOM as a last mile resort only after collating proof of relevant documents pertaining to communications regarding settlement amongst the parties.

12.4 IN ALL CASES

- 12.4.1 In all cases,, any dispute referred to arbitration by a party shall be heard by an arbitration panel composed of three arbitrators, in accordance with the provisions

as set forth below.

- 12.4.1.1 The DISCOM and the Contractor shall each appoint one arbitrator, and these two arbitrators shall jointly appoint a third arbitrator, who shall chair the arbitration panel. If the two arbitrators do not succeed in appointing a third arbitrator within twenty (20) days after the latter of the two arbitrators has been appointed, the third arbitrator shall, at the request of either party, be appointed by the Appointing Authority for third arbitrator who shall be the EO, EEREM
- 12.4.1.2 If one party fails to appoint its arbitrator within thirty-two (32) days after the other party has named its arbitrator, the party which has named an arbitrator may request the Appointing Authority to appoint the second arbitrator.
- 12.4.1.3 If for any reason an arbitrator is unable to perform its function, the mandate of the Arbitrator shall terminate in accordance with the provisions of applicable laws as mentioned in **Clause 3.32** (Applicable Law) and a substitute shall be appointed in the same manner as the original arbitrator.
- 12.4.1.4 The venue of arbitration shall be New Delhi. The provisions of Arbitration and Conciliation Act, 1996/ 2004, as amended from time to time shall govern the Arbitration proceedings conducted in respect of the disputes and the differences arising out of or under the contract, except to the extent, otherwise agreed herein by the parties.
- 12.4.1.5 The decision of a majority of the arbitrators (or of the third arbitrator chairing the arbitration panel, if there is no such majority) shall be final and binding and shall be enforceable in any court of competent jurisdiction as decree of the court. The parties thereby waive any objections to or claims of immunity from such enforcement.
- 12.4.1.6 The arbitrator(s) shall give reasoned award.
- 12.4.2 Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the agreement unless they otherwise agree.
- 12.4.3 Cost of arbitration shall be equally shared between the Empanelled Vendor or Contractor and the respective DISCOM.

13 FORCE MAJEURE

- 13.1 "Force Majeure" shall mean any event beyond the reasonable control of the Employer or of the Contractor, as the case may be, and which is unavoidable notwithstanding the reasonable care of the party affected, and shall include, without limitation, the following:
 - 13.1.1 war, hostilities or warlike operations (whether war be declared or not), invasion, act of foreign enemy and civil war,
 - 13.1.2 rebellion, revolution, insurrection, mutiny, usurpation of government, riot and civil commotion,
 - 13.1.3 earthquake, landslide, volcanic activity, flood or cyclone, or other inclement weather condition, nuclear and pressure waves or other natural or physical disaster,
- 13.2 Notwithstanding the provisions of clauses contained in this RfS document, the contractor shall not be liable to forfeit (a) PBG for delay and (b) termination of contract, if he is unable to fulfill his obligation under this contract due to force majeure conditions.
- 13.3 For purpose of this clause, "Force Majeure" means an event beyond the control of the contractor and not involving the contractor's fault or negligence and not foreseeable, either in its sovereign or contractual capacity. Such events may include but are not restricted to Acts of God, wars or revolutions, fires, floods, epidemics, quarantine restrictions and fright embargoes etc. Whether a "Force majeure" situation exists or not, shall be decided by DISCOM and its decision shall be final and binding on the contractor and all other concerned.

- 13.4 In the event that the contractor is not able to perform his obligations under this contract on account of force majeure, he will be relieved of his obligations during the force majeure period. In the event that such force majeure extends beyond six months, DISCOM has the right to terminate the contract in which case, the PBG shall be refunded to him.
- 13.5 If a force majeure situation arises, the contractor shall notify DISCOM in writing promptly, not later than 14 days from the date such situation arises. The contractor shall notify DISCOM not later than 3 days of cessation of force majeure conditions. After examining the cases, DISCOM shall decide and grant suitable additional time for the completion of the work, if required.

14 LANGUAGE

All documents, drawings, instructions, design data, calculations, operation, maintenance and safety manuals, reports, labels and any other data shall be in English Language. The contract agreement and all correspondence between the DISCOM and the bidder shall be in English language.

15 OTHER CONDITIONS

- 15.1 The Successful bidder shall not transfer, assign or sublet the work under this contract or any substantial part thereof to any other party without the prior consent of DISCOM in writing.
- 15.2 The Successful bidder or its subcontractors shall not display the photographs of the work and not take advantage through publicity of the work without written permission of DISCOM and owner of the Rooftop.
- 15.3 The Successful bidder or its subcontractors shall not make any other use of any of the documents or information of this contract, except for the purposes of performing the contract.
- 15.4 DISCOM will not be bound by any Power of Attorney granted/ issued by the Successful bidder or its subcontractors or by any change in the composition of the firm made during or subsequent to the execution of the contract. However, recognition to such Power of Attorney and change (if any) may be given by DISCOM after obtaining proper legal advice, the cost of which will be chargeable to the Successful bidder concerned.

16 SUCCESSORS AND ASSIGNEES:

In case DISCOM or Successful bidder may undergo any merger or amalgamation or a scheme of arrangement or similar re-organization & this contract is assigned to any entity(ies) partly or wholly, the contract shall be binding mutatis mutandis upon the successor entities & shall continue to remain valid with respect to obligation of the successor entities.

17 SEVERABILITY:

It is stated that each paragraph, clause, sub-clause, schedule or annexure of this contract shall be deemed severable & in the event of the unenforceability of any paragraph, clause sub-clause, schedule or the remaining part of the paragraph, clause, sub-clause, schedule annexure & rest of the contract shall continue to be in full force & effect.

18 COUNTERPARTS:

This contract may be executed in one or more counterparts, each of which shall be deemed an original & all of which collectively shall be deemed one of the same instrument.

19 RIGHTS & REMEDIES UNDER THE CONTRACT ONLY FOR THE PARTIES:

This contract is not intended & shall not be construed to confer on any person other than the DISCOM & Successful bidder hereto, any rights and / or remedies herein.

20 CORRESPONDENCE

Bidder requiring any Techno-Commercial clarification of the bid documents may contact in writing or by Fax/E Mail.

Name & Designation	Contact Number	Email id
Sh. R. K. Nagpal, GM(C&M)	011-23370541	nagpalrk@rediffmail.com
Sh. R. B. Meena, GM(Solar)	011-23278552	meenarb69@gmail.com
Sh. N. C. Sharma, AGM(C&M)-II	011-23378739	ncsharma@ipgcl-ppcl.nic.in
Sh. V. Kumar, A.G.M.(Solar)	011-23278432	vkumar0806@gmail.com

Verbal clarifications and information given by the IPGCL or its employees or its Representatives shall not be in any way entertained.

- 21** IPGCL's role is limited to discovery of L1 price and list of other successful vendors. DISCOM shall empanel the successful vendors and issue LoI and LOA. The vendor will be solely responsible for plant performance and maintenance and any liability arising on this account shall lie solely with the vendor, provided the beneficiary has given proper access and facilitation to the vendor for regular O&M and there has not been alteration in solar irradiance due to alteration in building or its surrounding over which the vendor has no control.

PART – V

SPECIALCONDITIONS OF

CONTRACT (SCC)

1 DEFINITIONS & ABBREVIATIONS

In this “Bid/ RfS Document” the following words and expression will have the meaning as herein defined where the context so admits:

- 1.1. “APPC” shall mean Average Power Purchase Cost.
- 1.2. “Benchmark Cost” shall mean per kWp cost defined by MNRE for solar power plants without battery.
- 1.3. "B.I.S." shall mean specifications of Bureau of Indian Standards (BIS).
- 1.4. “Bid/Tender” shall mean the Techno Commercial and Price Bid submitted by the Bidder along with all documents/ credentials/ attachments/ annexure etc., in response to this RfS, in accordance with the terms and conditions hereof.
- 1.5. “Bidder/ Bidding Company” shall mean Bidding Company submitting the Bid. Any reference to the Bidder includes Bidding Company/ including its successors, executors and permitted assigns as the context may require”.
- 1.6. “BidBond” shall mean the unconditional and irrevocable bank guarantee to be submitted along with the Bid by the Bidder under Clause 3.13, Part - II of this RfS, in the prescribed Format -3.
- 1.7. “Bid Deadline” shall mean the last date and time for submission of Bid in response to this RfS as specified in Bid Information Sheet.
- 1.8. “Bid Capacity” shall mean capacity offered by the bidder in his Bid under invitation. The Bidder shall quote a minimum capacity in each DISCOM as per Annexure-V
- 1.9. “CEA” shall mean Central Electricity Authority.
- 1.10. “Chartered Accountant” shall mean a person practicing in India or a firm whereof all the partners practicing in India as a Chartered Accountant(s) within the meaning of the Chartered Accountants Act, 1949.
- 1.11. “Competent Authority” shall mean MD IPGCL himself and/or a person or group of persons nominated by MD for the mentioned purpose herein.
- 1.12. “Commissioning” means Successful operation of the Project / Works by the Contractor, for the purpose of carrying out Performance Test(s) as defined in RfS.
- 1.13. “Company” shall mean a body incorporated in India under the Companies Act, 1956 or Companies Act, 2013 including any amendment thereto.
- 1.14. “Capacity Utilization Factor” (CUF) means the ratio of the actual output from a solar plant over the year (kWh) to the maximum possible output from it for a year (kWh) under ideal conditions.
- 1.15. $CUF = \text{Actual Plant Output in kWh over the year} / (\text{Installed Plant Capacity in kW} \times 365 \times 24)$.
- 1.16. Monthly CUF: $\text{Monthly Plant output in kWh} / (\text{installed plant capacity in kW} \times \text{number of days in a month} \times 24)$.
- 1.17. “CAPEX Model” shall mean, the bidder enters into an Agreement with the rooftop owner at the quoted project cost as per RfS for the Scope of work not limited to that indicated in the RfS as per mutually agreed terms and conditions.
- 1.18. “RESCO Model” shall mean, the bidder enters into an Agreement with the rooftop owner at the quoted tariff as per RfS for the Scope of work not limited to that indicated in the RfS as per mutually agreed terms and conditions.
- 1.19. “Eligibility Criteria” shall mean the Eligibility Criteria asset forth in Clause 3.3 of this RfS.
- 1.20. “Financially Evaluated Entity” shall mean the company which has been evaluated for the

satisfaction of the Financial Eligibility Criteria set forth in Clause 3.3.3 hereof.

- 1.21. "IEC" shall mean specifications of International Electro-Technical Commission.
- 1.22. "kWp" shall mean Kilo-WattPeak.
- 1.23. "kWh" shall mean Kilo-Watt-hour.
- 1.24. "MAAT" shall mean minimum average annual turnover of last three years ending on 31.03.2019.
- 1.25. "MNRE" shall mean Ministry of New and Renewable Energy, Government of India.
- 1.26. "Model" shall mean CAPEX model
- 1.27. "Net-worth" shall have same meaning as defined in Company Act 2013 and Amendment, if any.
- 1.28. "O&M" shall mean Operation & Maintenance of 5 years for CAPEX model and 25 years for RESCO model of Rooftop Solar PV Systems
- 1.29. "Owner of project" shall mean anyone who has ownership of the roof (including in the form of lease) and is the legal owner of all equipment of the project OR the Successful bidder who has taken the roof on mutually agreed terms and conditions from the roof top owner(s) and enters into a PPA with the consumer(s) for supply of solar power for at least 25 years from the date of Commissioning of project.
- 1.30. "Project capacity" means Capacity in kWp allocated to the Bidder for different categories consisting of single or multiple roof tops. The project capacity specified shall either be on AC side or DC side, whichever is on lower side.
- 1.31. "Performance Ratio" (PR) means the ratio of plant output versus installed plant capacity at any instance with respect to the radiation measured.

$$PR = \frac{\text{Measured output in kW} \times 1000 \text{ W /m}^2}{\text{Installed Plant capacity in kW} \times \text{Measured radiation intensity in W/m}^2}$$

- 1.32. "Parent Company" shall mean a company that holds at least Fifty percent (50%) of the paid-up equity capital directly or indirectly in the Bidding Company as the case may be;
- 1.33. "Project Company" shall mean Company incorporated by the bidder as per Indian Laws in accordance with Clause no 3.3.1 of Part - II.
- 1.34. "Project Sanction Documents" shall mean the documents as specified in Annexure.
- 1.35. "Price Bid" shall mean Envelope II of the Bid, containing the Bidder's quoted Price as per the Annexure of this RFS;
- 1.36. "Qualified Bidder" shall mean the Bidder(s) who, after evaluation of their Techno Commercial Bid as per Clause 3.3 of Part-II stand qualified for opening and evaluation of their Price Bid;
- 1.37. "RfS" shall mean Request for Selection (RfS) / Bid document / Tender document
- 1.38. "Rooftop Solar PV" shall mean solar power plant installed on the rooftop of the residential/institutional/commercial/industrial building and/or on the apartment land upto an area equivalent to two the total super built up area of the residential/ institutional/ commercial /industrial building. The super built up area shall include all residential/ institutional/ commercial/ industrial structures being used for these activities and shall also include store, covered parking etc as determined by the appropriate State Authority. The appurtenant land

shall be contiguous to the residential/institutional/commercial/industrial structure.

- 1.39. “Statutory Auditor” shall mean the auditor of a Company appointed under the provisions of the Companies Act, 1956 / 2013 or under the provisions of any other applicable governing law.
- 1.40. “Successful Bidder(s) / Contractor(s) / Project Developers(s)” shall mean the Bidder(s) selected by IPGCL pursuant to this RfS of different categories for Implementation of Grid Connected Roof Top Solar PV System as per the terms of the RFS Documents, and to whom Letter of Allocation has been issued;
- 1.41. “IPGCL” shall mean Indraprastha Power Generation Co. Ltd., New Delhi (A Govt. of Delhi Undertaking).
- 1.42. “Subsidy” available from DISCOM under CAPEX & RESCO Model is as per Table 1.2.
- 1.43. “DISCOM” shall mean each/any one of the three distribution companies in Delhi namely – BSES Rajdhani, BSES Yamuna, TPDDL
- 1.44. “Ultimate Parent Company” shall mean a company which directly or indirectly owns at least twenty- six percent (26%) paid up equity capital in the Bidding Company) and/or in the Financially Evaluated Entity and such Bidding Company and /or the Financially Evaluated Entity shall be under the direct control or indirectly under the common control of such company.
- 1.45. “Beneficiary” shall mean the customer who wishes to install system on CAPEX or RESCO model as per terms and conditions of this RfP
- 1.46. “Wp” shall mean WattPeak

PART –VI

**SAMPLE FORMS
& FORMATS**

Covering Letter

(The covering letter should be on the Letter Head of the Bidding Company)

Ref.No. _____

From: _____(Insert name and address of Bidding Company) Date: _

Tel. #:

E-mail address#

To

**INDRAPRASTHA POWER GENERATION COMPANY LTD.
‘HIMADRI’, RAJGHAT POWER HOUSE COMPLEX,
RAJGHAT, NEW DELHI – 110 002**

Sub: REQUEST FOR SELECTION OF FIRMS FOR EMPANELMENT FOR SUPPLY, INSTALLATION & COMMISSIONING OF 1 kWp TO 500 kWp GRID CONNECTED ROOFTOP SOLAR POWER PLANTS AT VARIOUS LOCATIONS IN THE UNION TERRITORY OF DELHI

Dear Sir,

1. We, the undersigned [**insert name of the ‘Bidder’**] having read, examined and understood in detail the RFS Document for Implementation of Grid connected Roof Top Solar PV System Scheme hereby submit our Bid comprising of Price Bid and Techno Commercial Bid. We confirm that neither we nor any of our Parent Company / Ultimate Parent Company has submitted Bid other than this Bid directly or indirectly in response to the aforesaid RfS.
2. We give our unconditional acceptance to the RfS, dated and RfS Documents attached thereto, issued by IPGCL, as amended. As a token of our acceptance to the RfS Documents, the same have been initialed by us and enclosed to the Bid. We shall ensure that we execute such RfS Documents as per the provisions of the RfS and provisions of such RfS Documents shall be binding on us.
3. We have submitted our bid for bid capacity kWp (Insert total capacity offered) under CAPEX (Insert A/ B/ C/D/ E/ F) and RESCO (A/ B/ C/ D). We have enclosed a Bid Bond/ DD/ FDR of Rs. ... (Insert Amount), in the form of bank guarantee no. (Insert number of the bank guarantee/ DD/ FDR) dated [Insert date of bank guarantee/ DD/ FDR] from (Insert name of bank providing Bid Bond/ DD/ FDR) and valid up to in terms of Clause of this RFS.
4. Bid Capacity: We have submitted bid(s) for the Category(s) under CAPEX / RESCO for the total capacity of __ kWp. (mention in the separate table, capacity for CAPEX/ RESCO separately as per RFS terms and conditions).

Model – Part	Part A (kWp)	Part B (kWp)	Part C (kWp)	Part D	Part E	Part F
CAPEX						

RESCO					NA	NA
-------	--	--	--	--	----	----

5. We have submitted our Price Bid strictly as per this RfS, without any deviations, conditions and without mentioning any assumptions or notes for the Price Bid in the saidformat(s).
6. In case we are a Successful Bidder, we shall furnish a declaration at the time of commissioning of the Project to the affect that neither we have availed nor we shall avail in future any Incentive other than received from DISCOM for implementation of theproject.

7. Acceptance

We hereby unconditionally and irrevocably agree and accept that the decision made by IPGCL/DISCOM in respect of any matter regarding or arising out of the RfS shall be binding on us. We hereby expressly waive any and all claims in respect of Bid process.

We confirm that there are no litigations or disputes against us, which materially affect our ability to fulfill our obligations with regard to execution of projects of capacity offered by us.

8. Familiarity with Relevant Indian Laws & Regulations

We confirm that we have studied the provisions of the relevant Indian laws and regulations as required to enable us to submit this Bid and execute the RfS Documents, in the event of our selection as Successful Bidder. We further undertake and agree that all such factors as mentioned in RfS have been fully examined and considered while submitting the Bid.

9. Contact Person

Details of the contact person are furnished as under:

Name :

Designation :

Company :

Address :

Phone No. :

E-mail address :

10. We are enclosing herewith the Envelope-I (Covering letter, Processing fee and Bid Bond etc as per relevant clause of the RfS) (through Offline) and Techno-Commercial documents through online and Price Bids through online containing duly signed formats, as desired by you in the RfS for your consideration as per relevant clause of theRfS.

It is confirmed that our Bid is consistent with all the requirements of submission as stated in the RfS and subsequent communications from IPGCL. The information submitted in our Bid is complete, strictly as per the requirements stipulated in the RfS and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our Bid. We confirm that all the terms and conditions of our Bid are valid for acceptance for a period of 6 month from the Bid deadline. We confirm that we have not taken any deviation so as to be deemed non-responsive.

Datedthe ___ day of _____, 2020.

Thanking you,

Yours faithfully,

Name, Designation and Signature of Authorized Person in whose name Power of Attorney/ Board Resolution/ Declaration.

Format-2**GENERAL PARTICULARS OF THE BIDDER (CAPEX Model/ RESCO Model)**

S. No.	Particulars	Details
1.	Name of the Company	
2.	Registered Office Address	
3.	E-mail ID	
4.	Web site	
5.	Authorized Contact Person(s) with name, designation Address and Mobile Phone No., E-mail address/ Fax No. to whom all references shall be made	
6.	Year of Incorporation	
	The organization structure i.e. whether LLP/ Pvt. Ltd. Co/ Public Ltd Company/ DIPP regd. Company/ Partnership Firm/ Proprietorship	
7.	Have the bidder/ Company ever been debarred By any Govt. Dept./ Undertaking/ Delhi Discoms for undertaking any work.	
8.	Reference of any document information attached by the Bidder other than specified in the RFS.	
9.	Details of the Ownership structure (Details of persons owning 10% or more of the Total Paid up equity of the Bidding Company in the Format as below	
10.	Whether company is MSME as on the bidding date. In case of MSME Company Aadhar Memorandum Particulars to be indicated.	
11.	Whether the Company has valid GST Registration Number (enclosed a copy)	
12.	PAN number (enclosed a copy)	
13.	Bank Account Details, For Bank A/c Details a copy of Cancelled Cheque to be enclosed.	

Please strike-off whichever is not applicable.

**Signature
Name
Designation with Seal**

FORMAT FOR BID BOND

(To be submitted separately for different categories for CAPEX& RESCO)

(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution.)

Ref. _____

Bank Guarantee No. _____

Date: _____

In consideration of the -----[Insert name of the Bidder] (hereinafter referred to as 'Bidder') submitting the response to RfS inter alia for selection of the Project under CAPEX & RESCO of the capacity of ____ MWp in the category ____ as indicated in RfS) in response to the RfS No. _____ dated ____ issued by IPGCL (hereinafter referred to as IPGCL) and IPGCL considering such response to the RfS of[insert the name of the Bidder] as per the terms of the RfS, the _____ [insert name & address of bank] hereby agrees unequivocally, irrevocably and unconditionally to pay to IPGCL at [Insert Name of the Place from the address of IPGCL] forthwith on demand in writing from IPGCL or any Officer authorized by it in this behalf, any amount upto and not exceeding Indian Rupees -----[Insert amount not less than that derived on the basis of INR 5.0 Lakhs per MW of cumulative capacity proposed] only, on behalf of M/s. _____ [Insert name of the Bidder].

Further, _____ [insert name & address of bank] hereby agrees that any claim due and arising under this guarantee shall be enforceable against our Bank branch _____ [insert name & address of bank in Delhi/ NCR] and they shall honour such demand in any case not later than next working day.

unequivocally, irrevocably and unconditionally to pay to IPGCL at [Insert Name of the Place from the address of IPGCL] forthwith on demand in writing from IPGCL or any Officer authorized by it in this behalf, any amount upto and not exceeding Indian Rupees _____ [Insert amount not less than that derived on the basis of INR 5.0 Lakhs per MW of cumulative capacity proposed] only, on behalf of M/s. _____ [Insert name of the Bidder].

This guarantee shall be valid and binding on this Bank up to and including _____ [insert date of validity as per relevant clause of the RfS] and shall not be terminable by notice or any change in the constitution of the Bank or the term of contract or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed with or without our knowledge or consent, by or between parties to the respective agreement.

Our liability under this Guarantee is restricted to INR _____ (Indian Rupees _____ only). Our Guarantee shall remain in force until _____ [insert date of validity as per relevant clause of the RfS]. IPGCL shall be entitled to invoke this Guarantee till _____ [Insert date which is 90 days after the date in the preceding sentence].

The Guarantor Bank hereby agrees and acknowledges that the IPGCL shall have a right to invoke this BANK GUARANTEE in part or in full, as it may deem fit.

The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand by IPGCL, made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to IPGCL.

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection by _____ [Insert name of the Bidder] and/or any other person. The Guarantor Bank shall not require IPGCL to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank

have any recourse against IPGCL in respect of any payment made hereunder.

This BANK GUARANTEE shall be interpreted in accordance with the laws of India and the courts at Delhi shall have exclusive jurisdiction.

The Guarantor Bank represents that this BANK GUARANTEE has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein.

This BANK GUARANTEE shall not be affected in any manner by reason of merger, amalgamation, restructuring or any other change in the constitution of the Guarantor Bank.

This BANK GUARANTEE shall be a primary obligation of the Guarantor Bank and accordingly IPGCL shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the Bidder, to make any claim against or any demand on the Bidder or to give any notice to the Bidder or to enforce any security held by IPGCL or to exercise, levy or enforce any distress, diligence or other process against the Bidder.

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rs. _____ (Rs. _____ only) and it shall remain in force until _____ [Date to be inserted as per relevant clause of the RfS] with an additional claim period of Ninety (90) days thereafter. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if IPGCL serves upon us a written claim or demand. We undertake to extend the period of this guarantee and confirm to you in writing the extension of time on IPGCL's request, till such time as may be requested.

As per the RBI Guideline, if required, correspondence for confirmation of this Bank Guarantee shall be made on following address: (Address & Official Email ID of the Supervising Branch/ Office of the BG issuing Branch with name & designation of the officer concerned)

Signature: _____

Name: _____

Power of Attorney No.: _____

For

_____ [Insert Name of the Bank] _____

Banker's Stamp and Full Address

Dated this ____ day of ____, 2020

FORMAT FOR PERFORMANCE BANK GUARANTEE (PBG)

{To be submitted for the Allocated capacity in different CATEGORIES for CAPEX/ RESCO separately}

(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution.)

In consideration of the [Insert name of the Bidder] (hereinafter referred to as selected Solar Power Developer) submitting the response to RfS inter alia for selection of the Project under Capex /RESCO of the capacity ofKWp / MWp, at[Insert name of CATEGORY] under Roof Top scheme in response to the RfS no..... dated..... issued by IPGCL (hereinafter referred to as IPGCL) and thereafter DISCOMs (Name of the DISCOM) considering such response to the RfS of[insert the name of the selected Solar Power Developer] (which expression shall unless repugnant to the context or meaning thereof include its executors, administrators, successors and assignees) and selecting the Solar Power Project of the Solar Power Developer and issuing Letter of allocation No. to (Insert Name of selected Solar Power Developer) as per terms of RfS and the same having been accepted by the selected SPD or a Project Company, M/s {a Special Purpose Vehicle (SPV) formed for this purpose}, if applicable]. As per the terms of the RfS, the [insert name & address of bank] hereby agrees unequivocally, irrevocably and unconditionally to pay to.....DISCOM (Name of the DISCOM) at [Insert Name of the Place from the address of the DISCOM] forthwith on demand in writing from.....DISCOM (Name of the DISCOM) or any Officer authorized by it in this behalf, any amount upto and not exceeding Rupees [Total Value] only, on behalf of M/s [Insert name of the selected Solar Power Developer / Project Company].

Further, _____ [insert name & address of bank] hereby agrees that any claim due and arising under this guarantee shall enforceable against our Bank branch _____ [insert name & address of bank in Delhi/ NCR] and they shall honour such demand in any case not late then next working day.

This guarantee shall be valid and binding on this Bank up to and including..... and shall not be terminable by notice or any change in the constitution of the Bank or the term of contract or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed with or without our knowledge or consent, by or between parties to the respective agreement.

Our liability under this Guarantee is restricted to Rs.....

Our Guarantee shall remain in force until.....DISCOM (Name of the DISCOM) shall be entitled to invoke this Guarantee till

The Guarantor Bank hereby agrees and acknowledges that DISCOM (Name of the DISCOM) shall have a right to invoke this BANK GUARANTEE in part or in full, as it may deem fit.

The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand by DISCOM (Name of the DISCOM), made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment toDISCOM (Name of the DISCOM).

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection by [Insert name of the selected bidder]. The Guarantor Bank shall not require DISCOM (Name of the DISCOM) to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against DISCOM (Name of the DISCOM) in respect of any payment made hereunder

This BANK GUARANTEE shall be interpreted in accordance with the laws of India and the courts at Delhi shall have exclusive jurisdiction.

The Guarantor Bank represents that this BANK GUARANTEE has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein.

This BANK GUARANTEE shall not be affected in any manner by reason of merger, amalgamation, restructuring or any other change in the constitution of the Guarantor Bank.

This BANK GUARANTEE shall be a primary obligation of the Guarantor Bank and accordingly DISCOM (Name of the DISCOM) shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the selected Solar Power Developer / Project Company , to make any claim against or any demand on the Successful bidder or to give any notice to the selected Solar Power Developer / Project Company or to enforce any security held by DISCOM (Name of the DISCOM) or to exercise, levy or enforce any distress, diligence or other process against the selected Solar Power Developer / Project Company .

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to INR _____ (Indian Rupees _____ only) and it shall remain in force until[Insert date which is 90 days after the date in the preceding sentence]. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if DISCOM (Name of the DISCOM) serves upon us a written claim or demand. We undertake to extend the period of this guarantee and confirm to you in writing the extension of time on DISCOM's (Name of the DISCOM) request, till such time as may be requested.

As per the RBI Guideline, if required, correspondence for confirmation of this Bank Guarantee shall be made on following address: (Address & Official Email ID of the Supervising Branch/ Office of the BG issuing Branch with name & designation of the officer concerned)

Signature _____
Name _____
Power of Attorney No. _____

For
_____ [Insert Name of the Bank]____
Banker's Stamp and Full Address.
Dated this ____ day of ____, 2020

Witness:
1.
Signature
Name and Address
2.
Signature
Name and Address

Notes:

1. The Stamp Paper should be in the name of the Executing Bank and of appropriate value. The Performance Bank Guarantee (PBG) shall be executed by any of the Bank from the List of Banks enclosed as per Annexure-B.

CHECK LIST FOR BANK GUARANTEES

Sl. No.	Details of checks	YES/NO.
a)	Is the BG on non-judicial Stamp paper of appropriate value, as per applicable Stamp Act of the place of execution	
b)	Whether date, purpose of purchase of stamp paper and name of the purchaser are indicated on the back of Stamp paper under the Signature of Stamp vendor? (The date of purchase of stamp paper should be not later than the date of execution of BG and the stamp paper should be purchased either in the name of the executing Bank or the party on whose behalf the BG has been issued. Also the Stamp Paper should not be older than six months from the date of execution of BG).	
c)	Has the executing Officer of BG indicated his name, designation and Power of Attorney No. /Signing Power no. on the BG?	
d)	Is each page of BG duly signed / initialed by executants and whether stamp of Bank is affixed thereon? Whether the last page is signed with full particulars including two witnesses under seal of Bank as required in the prescribed Performa?	
e)	Does the Bank Guarantees compare verbatim with the Performa prescribed in the Bid Documents?	
f)	Are the factual details such as Bid Document No. / Specification No. / LOI No. (if applicable) / Amount of BG and Validity of BG correctly mentioned in the BG	
g)	Whether overwriting/cutting if any on the BG have been properly authenticated under signature & seal of executants?	
h)	Contact details of issuing bank including email id, mobile number etc.	

POWER OF ATTORNEY

(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution.)

(a) Power of Attorney to be provided by the Bidding Company in favor of its representative as evidence of authorized signatory's authority.

Know all men by these presents, We (name and address of the registered office of the Bidding Company as applicable) do hereby constitute, appoint and authorize Mr./Ms. (name & residential address) who is presently employed with us and holding the position of... as our true and lawful attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of our Bid for implementation of grid connected Roof top solar PV scheme in the Category in response to the RfS No. dated..... issued by IPGCL, New Delhi including signing and submission of the Bid and all other documents related to the Bid, including but not limited to undertakings, letters, certificates, acceptances, clarifications, guarantees or any other document which IPGCL may require us to submit. The aforesaid Attorney is further authorized for making representations to the IPGCL, New Delhi and providing information / responses to IPGCL, New Delhi representing us in all matters before IPGCL, New Delhi and generally dealing with IPGCL, New Delhi in all matters in connection with Bid till the completion of the bidding process as per the terms of the above mentioned RfS.

We hereby agree to ratify all acts, deeds and things done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall be binding on us and shall always be deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such terms under the RfS. Signed by the within named..... (Insert the name of the executants company) through the hand of Mr. duly authorized by the Board to issue such Power of Attorney

Dated this day of

Accepted
.....

Signature of Attorney

(Name, designation and address of the Attorney)

Attested

.....

(Signature of the executants)

(Name, designation and address of the executants)

.....

Signature and stamp of Notary of the place of execution

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

WITNESS

1.
 (Signature)
 Name.....
Designation

2.
 (Signature)
 Name.....
 Designation

**FINANCIAL ELIGIBILITY CRITERIA
REQUIREMENT**

To _____
,
IPGCL
(To be submitted on the letterhead of Bidding
Company)

Dear Sir,

Sub: Bid for Implementation of Grid connected Roof Top Solar PV System scheme.

We submit our Bid/Bids for the total capacity of _____ MWp put together for which details of our Financial Eligibility Criteria Requirements are as follows.

Further, we certify that the Financially Evaluated Entity (ies) had an Annual Turnover or Net worth in any of the last three (3) financial years (strike out whichever is not applicable) of Rs. Crore computed as per instructions provided in this RFS based on unconsolidated audited annual accounts in last 03 years (ending on 31.03.2019).

Name of Financially Evaluated Entity*	Relationship with Bidding Company**	Financial Year	Year of Incorporation	Annual Turnover (Rs. Crore)	Net worth (in Rs. Crore)
2018 - 19					
2017- 18					
2016- 17					

* The Financially Evaluated Entity may be the Bidding Company itself.

**The column for "Relationship with Bidding Company" is to be filled in only in case financial capability of Parent Company has been used for meeting Qualification Requirements.

*** The Net Worth of the Bidder as on the last day of FY 2018-19 shall not be less than total paid-up share capital. However, in case, the bidder is subsidiary of a holding company, the net worth of the bidder as on the last day of FY 2018-19 shall not be less than 75% of total paid-up share capital and in such case, bidder has to submit a board resolution of the holding company indicating that "holding company shall support the bidder financially or otherwise, to execute the project successfully". Also, the Net Worth of the Holding Company of the Bidder, as on the last day of the financial year 2018-19 shall not be less than total paid-up share capital.

NOTES:

Paid up share capital will include

- Paid up equity share capital
- Fully, compulsorily and mandatorily convertible preferential shares
- Fully, compulsorily and mandatorily convertible Debentures

Share premium will form an integral part of the net worth provided it is realized in cash or cash equivalents. Other income shall not be considered for arriving at annual turnover.

Yours

faithfully (Signature and stamp (on each page) of Authorized Signatory of

Bidding Company.

Name:
Date:
Place:

(Signature and stamp (on each page) of Chartered Accountant/Statutory Auditors of Bidding Company.

Name:
Date:
.....
Place:
.....

FORMAT FOR CERTIFICATE OF RELATIONSHIP OF PARENT COMPANY

To,

.....

Dear Sir,

Sub: Bid for Implementation of Grid connected Roof Top Solar PV System Scheme.

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

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

Name of Bidding Company	Name of the Parent Company of the bidding Company	Name of the Company having common control The Bidding Company	Percentage of Equity Holding of Parent Company in the bidding Company

*Strike out whichever is not applicable.

.....

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

**UNDERTAKING FROM THE FINANCIALLY
EVALUATED ENTITY OR
ITS PARENTCOMPANY / ULTIMATE PARENT COMPANY**

(On the Letter Head of the Financially Evaluated Entity or its Parent Company/ Ultimate Parent Company)

Name:

Full Address:

TelephoneNo.:

E-mailaddress:

Fax/No.:

To,

.....

.....

Dear Sir,

We refer to the RFS No.....dated for“Implementation of 30 MW Gridconnected RoofTop Solar PV System Scheme”.

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

We confirm that M/s... (Insert name of Bidding Company/) has been authorized by us to use our financial capability for meeting the Financial Eligibility as specified in Clause....of the RFS referred to above.

We have also noted the amount of the Performance Guarantee required to be submitted as per Clause....of the RfS the (Insert the name of the Bidding Company) in the even to fit 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 nameof the Bidding Company) to submit the Performance Guarantee in full or in part at any stage, as specified in the RfS, we shall submit the Performance Guarantee not submitted by (Insert name of the 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 RFS.

Signature of Authorized 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.....

(Shareholding Certificate)

Name of the Equity holder	Type and Number of shares owned	% of equity holding	Extent of Voting rights

(Signature of Authorized Signatory) With Stamp

(Signature of Company Secretary/Director/Chartered Accountant)

PRICE BID FOR CAPEX (FOR PROJECTS RANGING 1 kWp to 3kWp)

(PART- A)

(To be submitted online separately)

Sr.No	Description	Total Bid Capacity in kWp (A=B+C+D)	Bid Capacity in BRPL (kW) (B)	Bid Capacity in BYPL (kW) (C)	Bid Capacity in TPDDL (kW) (D)	Unit Project cost up to 1 Mtr Height (Rs./kWp) (E)
1.	Design, Manufacturing, Supply, Erection, Testing & Commissioning including trial Operation, Operation & maintenance for a period of 5 years including Power Evacuation System and cost of replacement of all the parts, covered under Guarantee period for a period of 5 years from the date of commissioning of Roof top solar system.					

Note: Bid shall be Evaluated at Project Cost Quoted in Column (E) only. The Bid Capacity should be in multiple of 10kW. The minimum and maximum Bid Capacity in CAPEX Part A is 30 kW and 200 kW respectively. If the bidder is quoting between 30 kW and 100 kW, then quoted bid capacity in each discom should be minimum of 10kW. If the bidder is quoting between 100 kW and 200 kW the minimum quoted capacity in each discom should be 20 kW.

Yours faithfully,

Date:.....

Signature of the Authorized signatory :.....

Place:.....

Printed Name :.....

Designation:

BusinessAddress:.....

.....

Country of Incorporation: (Common Seal).....

PRICE BID FOR CAPEX (FOR PROJECTS RANGING 3kWp to 10kWp)

(PART-B)

(To be submitted online separately)

Sr. No	Description	Total Bid Capacity in kWp (A=B+C+D)	Bid Capacity in BRPL (kW) (B)	Bid Capacity in BYPL (kW) (C)	Bid Capacity in TPDDL (kW) (D)	Unit Project cost up to 1 Mtr Height (Rs./kWp) (E)
1.	Design, Manufacturing, Supply, Erection, Testing & Commissioning including trail Operation, Operation & maintenance for a period of 5 years including Power Evacuation System and cost of replacement of all the parts, covered under Guarantee period for a period of 5 years from the date of commissioning of Roof top solar system.					

Note: Bid shall be Evaluated at Project Cost Quoted in Column (E) only.

The Bid Capacity should be in multiple of 10kW. The minimum and maximum Bid Capacity in CAPEX Part B is 50 kW and 200 kW respectively.

If the bidder is quoting between 50 kW and 100 kW, then quoted capacity in each discom should be minimum of 15kW. If the bidder is quoting between 100 kW and 200 kW the minimum quoted capacity in each discom should be 20 kW.

Yours faithfully,

Date:.....

Signature of the Authorized signatory :.....

Place:.....

PrintedName :.....

Designation:

BusinessAddress:.....

.....

Country of Incorporation: (Common Seal).....

PRICE BID FOR CAPEX (FOR PROJECTS RANGING 10kWp to 100kWp)

(PART-C)

(To be submitted online separately)

Sr. No	Description	Total Bid Capacity in kWp (A=B+C+D)	Bid Capacity in BRPL (kW) (B)	Bid Capacity in BYPL (kW) (C)	Bid Capacity in TPDDL (kW) (D)	Unit Project cost up to 1 Mtr Height (Rs./kWp) (E)
1.	Design, Manufacturing, Supply, Erection, Testing & Commissioning including trail Operation, Operation & maintenance for a period of 5 years including Power Evacuation System and cost of replacement of all the parts, covered under Guarantee period for a period of 5 years from the date of commissioning of Roof top solar system.					

Note: Bid shall be Evaluated at Project Cost Quoted in Column (E) only.

The Bid Capacity should be in multiple of 10kW. The minimum and maximum Bid Capacity in CAPEX Part C is 100 kW and 500 kW respectively.

If the bidder is quoting between 100 kW and 500 kW, then quoted capacity in each discom should be minimum of 20kW.

Yours faithfully,

Date:.....

Signature of the Authorized signatory :.....

Place:.....

Printed Name :.....

Designation:

BusinessAddress:.....

.....

Country of Incorporation: (Common Seal).....

PRICE BID FOR CAPEX (FOR PROJECTS Above 100kWp to 500 kWp)

(PART-D)

(To be submitted online separately)

Sr.No	Description	Total Bid Capacity in kWp (A=B+C+D)	Bid Capacity in BRPL (kW) (B)	Bid Capacity in BYPL (kW) (C)	Bid Capacity in TPDDL (kW) (D)	Unit Project cost up to 1 Mtr Height (Rs./kWp) (E)
1.	Design, Manufacturing, Supply, Erection, Testing & Commissioning including trial Operation, Operation & maintenance for a period of 5 years including Power Evacuation System and cost of replacement of all the parts, covered under Guarantee period for a period of 5 years from the date of commissioning of Roof top solar system.					

Note: Bid shall be Evaluated at Project Cost Quoted in Column (E) only. The Bid Capacity should be in multiple of 10kW. The minimum and maximum Bid Capacity in CAPEX Part D is 300 kW and 1500 kW respectively.

Yours faithfully,

Date:.....

Signature of the Authorized signatory :.....

Place:.....

Printed Name :.....

Designation:

Business Address:.....

.....

Country of Incorporation: (Common Seal).....

**PRICE BID FOR CAPEX (FOR PROJECTS RANGING 1kWp to 3kWp
Elevated Structure)**

(PART-E)

(To besubmittedonlineseparately)

Sr.No	Description	Total Bid Capacity in kWp (A=B+C+D)	Bid Capacity in BRPL (kW) (B)	Bid Capacity in BYPL (kW) (C)	Bid Capacity in TPDDL (kW) (D)	Unit Project cost up to 1 Mtr Height (Rs./kWp) (E)	Structure Cost per m (per kW) (F)
1.	Design, Manufacturing, Supply, Erection, Testing & Commissioning including trail Operation, Operation & maintenance for a period of 5 years including Power Evacuation System and cost of replacement of all the parts, covered under Guarantee period for a period of 5 years from the date of commissioning of Roof top						

Note: Bid shall be Evaluated at Project Cost quoted in (E) and Structure Cost Quoted in (F) using the formula Total project cost (per KW) = E + 2F.

The Bid Capacity should be in multiple of 10kW. The minimum and maximum Bid Capacity in CAPEX Part E is 30 kW and 200 kW respectively.

If the bidder is quoting between 30 kW and 100 kW, then quoted capacity in each discom should be minimum of 10kW. If the bidder is quoting between 100 kW and 200 kW the minimum quoted capacity in each discom should be 20 kW.

Yours faithfully,

Date:..... Signature of the Authorized signatory :.....
Place:..... Printed Name :.....
Designation:
Business Address:.....
.....
Country of Incorporation: (Common Seal).....

PRICE BID FOR CAPEX (FOR PROJECTS RANGING 3 kWp to 10kWp)

Elevated Structure

(PART-F)

(To be submitted online separately)

Sr. No	Description	Total Bid Capacity in kWp (A=B+C+D)	Bid Capacity in BRPL (kW) (B)	Bid Capacity in BYPL (kW) (C)	Bid Capacity in TPDDL (kW) (D)	Unit Project cost up to 1 Mtr Height (Rs./kWp) (E)	Structure Cost per m (per kW) (F)
1.	Design, Manufacturing, Supply, Erection, Testing & Commissioning including trail Operation, Operation & maintenance for a period of 5 years including Power Evacuation System and cost of replacement of all the parts, covered under Guarantee period for a period of 5 years from the date of commissioning of Roof top solar system.						

Note: Bid shall be Evaluated at Project Cost quoted in Column (E) and Structure Cost Quoted in Column (F) using the formula, Total project Cost = E + 2F

The Bid Capacity should be in multiple of 10kW. The minimum and maximum Bid Capacity in CAPEX Part F is 50 kW and 200 kW respectively.

If the bidder is quoting between 50 kW and 100 kW, then quoted capacity in each discom should be minimum of 15kW. If the bidder is quoting between 100 kW and 200 kW the minimum quoted capacity in each discom should be 20 kW.

Yours faithfully,

Date:.....
Place:.....
Signature of the Authorized signatory :.....
Printed Name :.....
Designation:

Business Address:.....
.....
Country of Incorporation: (Common Seal).....

PRICE BID FOR RESCO (FOR PROJECTS RANGING 25kWp to 100kWp)

(PART-A) (Tariff with fixed tariff for 25 years)

(To besubmittedonlineseparately)

Evaluation for RESCO Part A:

Sr.No	Description	Bid Capacity in kWp (A) (A=B+C+D)	Quoted Capacity in BRPL (kW) (B)	Quoted Capacity in BYPL (kW) (C)	Quoted Capacity in TPDDL (kW) (D)	Quoted Tariff (Rs./kWh) (E)
1.	Design, Manufacturing, Supply, Erection, Testing & Commissioning including trail Operation, Operation & maintenance for a period of 25 years including Power Evacuation System and cost of replacement of all the parts. (upto 1 Mtr Structure height)					

Note: The bids shall be evaluated at Quoted Tariff (E). The Bid Capacity should be in multiple of 10kW. The minimum and maximum Bid Capacity in RESCO Part A is 200 kW and 500 kWp respectively.

- The tariff shall be quoted up to two decimal places.
- Fixed Tariff for 25 years
- Quoted Tariff cannot exceed Rs 4.5/kWh
- Bids not in conformity with above provisions will be rejected.

Yours faithfully,

Date:

Signature of the Authorized signatory :.....

Place:

Printed Name :

Designation:

Business Address:.....

.....

Country of Incorporation: (Common Seal).....

PRICE BID FOR RESCO (FOR PROJECTSRANGING above 100kWp to 500kWp)

(PART-B) (Tariff with fixed tariff for 25 years)

(To besubmittedonline separately)

Evaluation for RESCO Part B:

Sr.No	Description	Bid Capacity in kWp (A) (A=B+C+D)	Quoted Capacity in BRPL (kW) (B)	Quoted Capacity in BYPL (kW) (C)	Quoted Capacity in TPDDL (kW) (D)	Quoted Tariff (Rs./kWh) (E)
1.	Design, Manufacturing, Supply, Erection, Testing & Commissioning including trail Operation, Operation & maintenance for a period of 25 years including Power Evacuation System and cost of replacement of all the parts. (upto 1 Mtr Structure height)					

Note: The bids shall be evaluated at Quoted Tariff (E). The Bid Capacity should be in multiple of 10kW. The minimum and maximum Bid Capacity in RESCO Part B is 300 kW and 1500 kWp respectively.

- a. The tariff shall be quoted up to two decimal places.
- b. Fixed Tariff for 25 years
- c. Quoted Tariff cannot exceed Rs 4.5/kWh
- d. Bids not in conformity with above provisions will be rejected.

Yours faithfully,

Date:

Signature of the Authorized signatory :.....

Place:

Printed Name :

Designation:

Business Address:.....

.....

Country of Incorporation: (Common Seal).....

PRICE BID FOR RESCO (FOR PROJECTS RANGING 25kWp to 100kWp Elevated Structure at 3m)

(PART-C) (Tariff with fixed tariff for 25 years)

(To be submitted online separately)

Evaluation for RESCO Part C:

Sr.No	Description	Bid Capacity in kWp (A) (A=B+C+D)	Quoted Capacity in BRPL (kW) (B)	Quoted Capacity in BYPL (kW) (C)	Quoted Capacity in TPDDL (kW) (D)	Quoted Tariff (Rs./kWh) (E)
1.	Design, Manufacturing, Supply, Erection, Testing & Commissioning including trail Operation, Operation & maintenance for a period of 25 years including Power Evacuation System and cost of replacement of all the parts. (for elevated structure height above 1 mtr upto 3 mtr)					

Note: The bids shall be evaluated at Quoted Tariff (E). The Bid Capacity should be in multiple of 10kW. The minimum and maximum Bid Capacity in RESCO Part C is 200 kW and 500 kWp respectively.

- a. The tariff shall be quoted up to two decimal places.
- b. Fixed Tariff for 25 years
- c. Quoted Tariff cannot exceed Rs 4.5/kWh
- d. Bids not in conformity with above provisions will be rejected.

Yours faithfully,

Date:

Signature of the Authorized signatory :.....

Place:

Printed Name :

Designation:

Business Address:.....

.....

Country of Incorporation: (Common Seal).....

**PRICE BID FOR RESCO (FOR PROJECTSRANGINGabove 100 kWp to 500kWp
Elevated Structure at 3m)**

(PART-D) (Tariff with fixed tariff for 25 years)

(To besubmittedonlineseparately)

Evaluation for RESCO Part D:

Sr. No	Description	Bid Capacity in kWp (A) (A=B+C+D)	Quoted Capacity in BRPL (kW) (B)	Quoted Capacity in BYPL (kW) (C)	Quoted Capacity in TPDDL (kW) (D)	Quoted Tariff (Rs./kWh) (E)
1.	Design, Manufacturing, Supply, Erection, Testing & Commissioning including trail Operation, Operation & maintenance for a period of 25 years including Power Evacuation System and cost of replacement of all the parts. (for elevated structure height above 1 mtr upto 3 mtr)					

Note: The bids shall be evaluated at Quoted Tariff (E). The Bid Capacity should be in multiple of 10kW. The minimum and maximum Bid Capacity in RESCO Part D is 300 kW and 1500 kWp respectively.

- The tariff shall be quoted up to two decimal places.
- Fixed Tariff for 25 years
- Quoted Tariff cannot exceed Rs 4.5/kWh
- Bids not in conformity with above provisions will be rejected.

Yours faithfully,

Date:

Signature of the Authorized signatory :.....

Place:

Printed Name :

Designation:

Business Address:.....

.....

Country of Incorporation: (Common Seal).....

Sheet for Additional Height Capex Part C & D
(for Non evaluation Purpose)

Cost of Structure for additional Height to be submitted along with Price Bid for Capex Part C & D (Shall not be used for Evaluation of Bid)

Sl. No.	Category	Strucutre Cost per m (per kW) in INR
01.	Capex Part C	
02.	Capex Part D	

Sheet for Additional O&M (06-10 yerars) for Capex Part A, B, C, D, E & F
(for Non evaluation Purpose)

Cost for O&M (for Additional 5 years) to be submitted along with Price Bids for Capex Part A, B, C, D, E & F (Shall not be used for Evaluation of Bid)

Sl. No.	Category	O&M (for Additional 5 years) (Shall not be used for Evaluation of Bid) in INR
01.	Capex Part A	
02.	Capex Part B	
03.	Capex Part C	
04.	Capex Part D	
05.	Capex Part E	
06.	Capex Part F	

DOCUMENTS REQUIRED FOR PROJECT SANCTION

Following documents will be required to be submitted for project sanction:

1. EPC Agreement between the bidder and the owner of the Project and Building/Roof top (Copy of agreement on stamp paper of appropriate value should be enclosed).

Copy of the model EPC agreement for CAPEX

All Agreement shall generally have reference to the IPGCL's RFS No. and Letter of Allocation and provisions as per terms and conditions, technical specification and performance parameter in line with the IPGCL's RFS Document against which Letter of Allocation has been issued by the DISCOM. In addition, it shall indicate the price / tariff payable by the roof top Owner to the developer, payment terms, completion period along with other conditions of contract like insurance, warranty, force majeure, arbitration, jurisdiction, governing law, site access for the developer, and, site access for DISCOM(s) or DISCOMs nominated officials for the entire plant life, obligation of the roof top owner regarding providing of data to DISCOMs as per the RFS Document etc.

2. Acknowledgement / No Objection Certificate from the concerned DISCOM for grid connectivity (Not mandatory during project identification, however mandatory for project commissioning/operation).
3. Summary Project Report (2-3 pages only) as per Format at Annexure D.

Check List

For issuance of Sanction Order

S. No.	Documents	Yes / NO	Page No.
1.	Covering letter on Letter head		
2.	Copy of CAPEX Agreement/ RESCO Agreement (PPA)		
3.	NOC/ Acknowledgement from DISCOM		
4.	Copy of Electricity Bill		
5.	Colored Site Photos with Date & Time stamping and Geo-coordinates		
6.	Annexure - E (BOM & SLD)		
7.	Solar PV Module Specs Sheet		
8.	Solar PV Module IEC Certificates		
9.	Inverter Specs Sheet		
10.	Inverter IEC Certificates		
11.	Performance Bank Guarantee		

Signature

List of Banks

ACCEPTANCE OF BANK GUARANTEES FROM NON-NATIONALISED BANKS. (OTHER THAN NATIONALISED BANKS AND SCHEDULE BANK)

The List of Non Nationalized Bank whose bank guarantees are acceptable to IPGCL are below:

1. Bank of America
2. Bank of Tokyo.
3. Citi Bank N.A.
4. Deutsche Bank (Asia) Aktiengesellschaft.
5. ICICI Bank.
6. Hong Kong and Shanghai Banking Corporation.
7. Standard Chartered Bank.
8. Barclays Bank.
9. ING Vysya Bank
10. IDBI Bank
11. Axis Bank
12. HDFC Bank
13. Kotak Mahindra
14. RBL
15. RBS
16. IndusInd Bank

PROJECT REPORT FORMAT**Format for Summary Project Report for Grid Connected Rooftop:**

1. Name of Bidder :
2. RfS No. :
3. Project details (Site location & Address) :
4. Name of the beneficiary :
5. Size of Plant (in kW) :
6. **Specifications of the Components and Bill of Material/ Quantities:**

S. No.	Component	Specifications	Quantity	Make
A	Solar PV module			
A.1	Aggregate Solar PV capacity (kWp)			
B	Grid Tie inverter (Type and Capacity)			
B.1	Aggregate Inverter capacity (kVA)			
C	Module mounting structure (Certified by a Structural Engineer (Mandatory for 3kWp to 500 kWp))			
D	Array Junction Box			
E	AC Distribution Board			
F	Cable (All type)	DC: AC:		
G	Earthing Cable/ Strip			
H	Lightening Arrestor			
I	Earthing Pits (No.)	LA: DC: AC:		
J	Online monitoring system			
K	Any other component			

7. Unit Cost of solar power generation
8. Cost benefit analysis
9. Expected Output/annum
10. Respective drawings for module layout, electrical wiring connections, earthing, component setc.
11. Connectivity details with grid and metering arrangement (with sketch diagram)

12. Copy of electricity bill of the beneficiary and consumernumber
13. Documentary Proof regarding beneficiary type
14. Any otherinformation

Annexure - E

Project Completion Report for Grid-Connected Rooftop

Financial year:			
Sanction Letter No. :			
Proposal Title :			
Installed by agency :			
Title of the Project:		SPV Capacity (kWp):	
Category of the organization/ beneficiary:		Name of the contact person:	
Address of contact person:			
State:		District/ City:	
Mobile:		Email:	
Aadhaar Card Number (For Residential)		Latitude:	
		Longitude:	
DISCOM		Sanction Load	
CA No.			

Technology Description & System Design /Specification			
(Compliance to BIS/ IEC Standards is mandatory)			
1. Solar PV Module:			
Power of each PV Module / Nos.(Wp)* / Make			
Cumulative Capacity of Modules(kWp):			
Solar cell technology:		Tilt Angle of Modules:	
Module efficiency (in %) :		Azimuth	
Indigenous or imported (Cell)		RFID passed inside or outside:	
Indigenous or imported (Module)		* Supported by Appropriate documentation	
2. Inverters:			
Type of inverter :			

Power of each PCU/Nos. of inverters (KVA)* /Make			
Capacity/Power of PCU/inverters (KVA) :		Type of Charge Controller /MPPT	
Inverter efficiency (in %)			
Grid connectivity level phase	Single Phase/ Three Phase	Grid connectivity level Voltage	220 V/ 415 V
3. Mounting Structures			
Type		Surface Finish	
Material		Wind Speed Tolerance	
4. Cables:			
DC Cable Make		Size	
AC Cable Make (Inverter to ACDB)		Size	
AC Cable Make (ACDB to Electric Panel)		Size	
Conductor		Insulation/sheath	PVC / XLPE
5. JUNCTION BOX & DISTRIBUTION BOARDS			
ACDB		Nos.	
DCDB		Nos.	
6. EARTHING & LIGHTNING PROTECTION			
EQUIPMENT EARTHING			
AC (Nos.)		Earth Resistance	
DC (Nos.)		Earth Resistance	
LIGHTNING ARRESTORS (LA)			
Type			
LA (Nos.)		Earth Resistance	
7. Online Monitoring Mechanism:			
Web Portal :			
USER ID :		Password:	
8. Weather monitoring:			
Solar Irradiance (Pyranometer - Class II or better)		Temperature	Ambient & Module
Wind speed sensor			
9. Fire Fighting Device / System			
10. Danger Board			

Date:.....

(Signature of Vendor)

With Stamp

Annex:

1. Copy of System test & Earth test reports(annexed)

Commissioning Test Report: Solar Project kW

Inverter Testing(DC)Side:Nos.ofInverter Nos.

Inverter S. No.	Capacity	String 1: Voc	String 2: Voc	Remark

Inverter Testing (AC) Side – Single / Three Phase

Inverter S. No.	Capacity	R – Y/ P-N	Y – B	B - R	R – N	Y – N	B - N	Remark

ACDB & Meter Panel Testing – Single / Three Phase

	R – Y/ P-N	Y – B	B - R	R – N	Y – N	B - N	Remark
ACDB I/C (V)							
ACDB O/G (V)							

EarthingPitDetails:Nos.ofEarthPitNos.

	Earthing AC	Earthing DC	Earthing LA	Remark
Earth Test Value (Ohm)				

Date:

Sign

SiteEngineer

(Subsidy Claim Letter on Company letter Head)

RefNo.....

Date:.....

To,

DISCOM

Sub: Claim Letter for release of subsidy for Solar Power Plant of kWp capacity installed at

Ref:

1. XXXXAllocation letter No.
2. XXXSanction letter No.....

Dear Sir,

This is in reference to DISCOM allocation and sanction letter, We, (Name of Company) has successfully commissioned the kWp capacity rooftop solar plant installed at

(Name, CA No. & Address Site).

As per the sanction order, (Name of Company) is entitled to a subsidy of INRs ,

post successful installation, commissioning and inspection of the rooftop Solar Power Plant. Therefore, kindly release the subsidy of INR. (Rs. In words) at the earliest.

Thanks and regards,

(Signature)

Signed and Stamp

Check List

Documents against Completion of Project

Name of Vendor:

Allocated Capacity :kWp

Allocation letter No.:

Sanction letter No. :

Name of Beneficiary:

Installed Capacity:kW

S. No.	Documents	Yes / NO	Page No.
1.	Claim letter for Subsidy (Annexure F)		
2.	Solar System Warrantee Certificate for 5 / 25 years		
3.	Copy of Inspection report		
4.	Copy of PR Test report		
5.	Copy of Completion report		
6.	Copy of Solar System (Electrical side) testing report		
7.	Copy of Joint Completion certificate (JCR)		
8.	Solar PV module & Solar Inverter Serial No.		
9.	Solar PV module & Solar Inverter test sheet		
10.	Solar PV module & Solar Inverter warranty certificates		
11.	Solar PV plant Insurance Cover		
12.	PV Syst, Stadd Pro, Final BOM, As built drawing		
13.	Net Metering Installation report		
14.	User name and Password of remote monitoring system along with Open API of datalogger		

Signature

Joint Commissioning Report(JCR)

COMMISSIONING REPORT (PROVISIONAL) FOR GRID CONNECTED SOLAR PHOTOVOLTAIC POWER PLANT (with Net-metering facility)

Certified that a Grid Connected SPV Power Plant of..... KWp capacity has been installed at the site.....

.....
... district of
..... which has been
installed by M/S

..... on The system is as per BIS/MNRE specifications. The system has been checked for its performance on with / without installation of bi-directional meter and it is working satisfactorily. The system is suitable for installation of bi-directional and gross energy meters.

Signature of the beneficiary

**Signature of the rep. of
supplier-
Withname,sealanddate**

**SignatureoftheP.O./APO
Withname,dateandseal**

Check list for offline documents:

S. No.	Documents Details	Attached, (Yes/ No)
1.	Covering letter as per Format-1.	
2.	General Particulars as per Format-2.	
3.	Original copy of the Bid Bond as per format -3 in the form of a Bank Guarantee/ DD / FDR. Check list as per Format-5 or in case of exemption copy of valid NSIC/ DIC/ MSEs registration/ DIPP registration.	
4.	Bid Processing Fee in the form of DD/ Bankers cheque for an amount as per revenant Clause, drawn in favour ofIPGCL payable at New Delhi against payment of tender processing fee.	
5.	Original Power of Attorney supplemented with Board resolutions for CAPEX Part C,D and RESCO Part A,B,C and D Or letter of Authorisation for CAPEX PART-A,B,E and F – Annexure M	
6.	Financial eligibility criterion (as per format -7).	
7.	Certificate for certificate of relationship of Parent Company or Affiliate with the Bidding Company (as per Format -8), if required.	
8.	Undertaking from the Financially Evaluated Entity or its Parent Company/ Ultimate Parent Company (as per Format -9), if required.	
10.	Share Holding certificate (Format -10).	
11.	Self-Declaration, Annexure-M for Capex Part A, B&E and F.	

Check list for online documents:

S. No.	Documents Details	Attached, (Yes/ No)
1.	Certificate of incorporation and Updated Memorandum of Association (MoA).	
2.	Scanned copy of DIPP registration certificate under Renewable Energy sector.	
3.	Declaration on bidder's letterhead for Non blacklisting from any Government deptt./ PSU/ SEB's/ Delhi DISCOMs.	
4.	PAN registration. GST registration.	
5.	For meeting technical eligibility criterion: Scanned copy of the Commissioning certificate and Work order/ Contract/ Agreement/ from the Client/ Owner.	
6.	For meeting financial eligibility criterion: scanned copy Balance Sheet showing Annual Turnover or Net worth in any one of the three financial years.	
7.	Acceptance of RfS terms and conditions including amendments & clarification on letter head of the bidder.	

Operation and Maintenance Guidelines of Grid Connected PV Plants

(CAPEX Model (Part-A/ Part-B/ Part C/ Part D/ Part- E/ Part-F) and RESCO Model (Part-A/ Part-B/ Part C))

01. For the optimal operation of a PV plant, maintenance must be carried out on a regular basis.

02. All the components should be kept clean. It should be ensured that all the components are fastened well at their due place.

03. Maintenance guidelines for various components viz. solar panels, inverter, wiring etc. are discussed below:

SOLAR PANELS

Although the cleaning frequency for the panels will vary from site to site depending on soiling, it is recommended that

- i. The panels are cleaned at least once every fifteen days.
- ii. Any bird droppings or spots should be cleaned immediately.
- iii. Use water and as soft sponge or cloth for cleaning.
- iv. Do not use detergent or any abrasive material for panel cleaning.
- v. Iso-propyl alcohol may be used to remove oil or grease stains.
- vi. Do not spray water on the panel if the panel glass is cracked or the back side is perforated.
- vii. Wipe water from module as soon as possible.
- viii. Use proper safety belts while cleaning modules at inclined roof etc.
- ix. The modules should not be cleaned when they are excessively hot. Early morning is particularly good time for module cleaning.
- x. Check if there are any shade problems due to vegetation or new building. If there are, make arrangements for removing the vegetation or moving the panels to a shade-free place.
- xi. Ensure that the module terminal connections are not exposed while cleaning; this poses a risk of electric shock.
- xii. Never use panels for any unintended use, e.g. drying clothes, chips etc.
- xiii. Ensure that monkeys or other animals do not damage the panels.

CABLES AND CONNECTION BOXES

- i. Check the connections for corrosion and tightness.
- ii. Check the connection box to make sure that the wires are tight, and the water seals are not damaged.
- iii. There should be no vermin inside the box.
- iv. Check the cable insulating sheath for cracks, breaks or burns. If the insulation is damaged, replace the wire.
- v. If the wire is outside the building, use wire with weather-resistant insulation.
- vi. Make sure that the wire is clamped properly and that it should not rub against any sharp edges or corners.
- vii. If some wire needs to be changed, make sure it is of proper rating and type.

INVERTER

- i. The inverter should be installed in a clean, dry, and ventilated area which is separated from, and not directly above, the battery bank.
- ii. Remove any excess dust in heat sinks and ventilations. This should only be done with a dry cloth or brush.
- iii. Check that vermin have not infested the inverter. Typical signs of this include
- iv. Spider webs on ventilation grills or wasps' nests in heat sinks.
- v. Check functionality, e.g. automatic disconnection upon loss of grid power supply, at least once a month.
- vi. Verify the state of DC/AC surge arrestors, cable connections, and circuit breakers.

SHUTTING DOWN THE SYSTEM

- i. Disconnect system from all power sources in accordance with instructions for all other components used in the system.
- ii. Completely cover system modules with an opaque material to prevent electricity from being generated while disconnecting conductors.
- iii. To the extent possible, system shutdown will not be done during day time or peak generation.

INSPECTION AND MAINTENANCE SCHEDULE:

Component	Activity	Description	Interval	By
PV Module	Cleaning	Clean any bird droppings/ dark spots on module	Immediately	User/Technician
	Cleaning	Clean PV modules with plain water or mild dishwashing detergent. Do not use brushes, any types of solvents, abrasives, or harsh detergents.	Fortnightly or as per the site conditions	User/Technician
	Inspection (for plants > 100kWp)	Use infrared camera To inspect for hot spots; bypass diode failure	Annual	Technician

Component	Activity	Description	Interval	By
PV Array	Inspection	Check the PV modules and rack for any damage. Note down location and serial number of damaged modules.	Annual	User/Technician
	Inspection	Determine if any new objects, such as vegetation growth, are causing shading of the array and move them if possible.	Annual	User/Technician
	Vermin Removal	Remove bird nests or Vermin from array and rack area.	Annual	User/Technician
Junction Boxes	Inspection	Inspect electrical boxes for corrosion or intrusion of water or insects. Seal boxes if required. Check position of switches and breakers. Check operation of all protection devices.	Annual	Electrician
Wiring	Inspection	Inspect cabling for signs of cracks, defects, loose connections, overheating, arcing, short or open circuits, and ground faults.	Annual	Electrician
Inverter	Inspection	Observe	Monthly	Electrician
Component	Activity	Description	Interval	By
		instantaneous operational indicators on the faceplate of the inverter to ensure that the amount of power being generated is typical of the conditions. Inspect Inverter housing or shelter for physical maintenance, if required.		

Inverter	Service	Clean or replace any air filters.	As needed	Electrician
		Spot-check monitoring instruments		
Transformer	Inspection	Inspect transformer oil level, temperature gauges, breather, silica gel, meter, connections etc.	Annual	Electrician
	Inspection	Inspect gears, gear boxes, bearings as required.	Annual	Technician
	Service	Lubricate tracker mounting bearings, gearbox as required.	Bi-annual	Technician
Plant	Monitoring	Daily Operation and Performance Monitoring	Daily	Site in charge
Inverter	Inspection	Observe instantaneous operational indicators on the faceplate of the inverter to ensure that the amount of power being generated is typical of the conditions. Inspect Inverter housing or shelter for physical maintenance, if required.	Monthly	Electrician
Inverter	Service	Clean or replace any air filters.	As needed	Electrician
Instruments	Validation	Spot – check monitoring instruments (pyranometer etc.) with standard instruments to ensure that they are operational and within specifications.	Annual	PV Specialist
Transformer	Inspection	Inspect transformer oil level, temperature gauges, breather, silica gel, meter, connections etc.	Annual	Electrician
Tracker (if present)	Inspection	Inspect gears, gearboxes, bearings as required.	Annual	Technician
	Service	Lubricate tracker mounting bearings, gearbox as required.	Bi-annual	Technician
Plant	Monitoring	Daily Operation and Performance Monitoring	Daily	Site in charge

Spare Parts	Management	Manage inventory of spare parts.	As needed	Site in charge
Log Book	Documentation	Document all O&M activities in a workbook available to all service personnel	Continuous	Site in charge

Operation and Maintenance Guidelines of Grid Connected PV Plants

(CAPEX Model (Part-A/ Part-B/ Part C/ Part- D/Part- E/ Part F) and RESCO Model (Part-A/ Part-B/ Part C/ Part D))

- i. Periodic cleaning of solar modules, preferably once every fortnight.
- ii. O&M of Solar Power Plant shall be compliant with grid requirements to achieve committed energy generation.
- iii. Periodic checks of the Modules, PCUs and BoS shall be carried out as a part of routine preventive and breakdown maintenance.
- iv. Immediate replacement of defective Modules, Invertors/PCUs and other equipment as and when required.
- v. Supply of all spares, consumables and fixtures as required. Such stock shall be maintained for all associated equipments and materials as per manufacturer/ supplier's recommendations.
- vi. All the equipment testing instrument required for Testing, Commissioning and O&M for the healthy operation of the Plant shall be maintained by the Bidder. The testing equipments must be calibrated once every 2 years from NABL accredited labs and the certificate of calibration must be kept for reference as required.
- vii. If negligence/mal-operation on part of the Bidder's operator results in failure of equipment, such equipment should be repaired/replaced by the Bidder free of cost.
- viii. If any jobs covered in O&M Scope as per RFS are not carried out by the contractor/Bidders during the O&M period, the Engineer-In-Charge shall take appropriate action as deemed fit.
- ix. DISCOMs reserves the right to make surprise checks/inspection visits at its own or through authorized representative to verify the O&M activities being carried out by the Bidder. Failure to adhere to above guidelines will result in penal action including debarring from participation in next tender

ANNEXURE L

Quality Certification, Standards and Testing for Grid-connected Rooftop Solar PV Systems/Power Plants

Quality certification and standards for grid-connected rooftop solar PV system 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:

Solar PV Modules/Panels	
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 ₃) 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 including “Fire Test MST 23”
IEC 62804	Photovoltaic (PV) modules-Test methods for the detection of potential-induced degradation. IEC TS62804-1:Part 1: Crystalline silicon (mandatory for applications where the system voltage is > 600VDC and advisory for installations where the system voltage is <600 VDC)
IEC 62759-1	Photovoltaic (PV) modules–Transportation testing, Part 1: Transportation and shipping of module package units
Solar PV Inverters	
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/IS 61683 (as applicable)	Photovoltaic Systems – Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75% & 90-100% Loading Conditions)

BS EN 50530 (as applicable)	Overall efficiency of grid-connected photovoltaic inverters: This European Standard provides a procedure for the measurement of the accuracy of the maximum power point tracking (MPPT) of inverters, which are used in grid-connected photovoltaic systems. In that case the inverter energizes a low voltage grid of stable AC voltage and constant frequency. Both the static and dynamic MPPT efficiency is considered.
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 (1, 2, 14, 27, 30 & 64)	Environmental Testing of PV System – Power Conditioners and Inverters a) IEC 60068-2-1: Environmental testing - Part 2-1: Tests - Test A: Cold b) IEC 60068-2-2: Environmental testing - Part 2-2: Tests - Test B: Dry heat c) IEC 60068-2-14: Environmental testing - Part 2-14: Tests - Test N: Change of temperature d) IEC 60068-2-27: Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock e) IEC 60068-2-30: Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle) f) IEC 60068-2-64: Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance
IEC 61000 – 2,3,5 (as applicable)	Electromagnetic Interference (EMI) and Electromagnetic Compatibility (EMC) testing of PV Inverters
Fuse	
IS/IEC 60947 (Part 1, 2 & 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 systems
Surge Arrestors	
IEC 62305-4	Lightening Protection Standard, CEA safety regulations
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-
Cables	
IEC 60227/IS694, IEC 60502/IS1554 (Part 1&2)/ IEC69947	General test and measuring method for PVC (Polyvinyl chloride) insulated cables (for working voltages up to and including 1100V, and UV resistant for outdoor installation)
BS EN 50618	Electric cables for photovoltaic systems (BT(DE/NOT)258), mainly for DC Cables
Earthing/Lightning	
IEC 62561 Series (Chemical earthing)	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 earthing electrodes IEC 62561-7: Lightning protection system components (LPSC)- Part 7: Requirements for earthing enhancing compounds
Junction Boxes	
IEC 60529	Junction boxes and solar panel terminal boxes shall be of the thermo-plastic type with IP65 protection for outdoor use, and IP 54 protection for indoor use
Energy Meter	
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)
Solar PV Roof Mounting Structure	
IS 2062/IS4759	Material for the structure mounting

Note: Equivalent standards may be used for different system components of the plants. In case of clarification following person/agencies may be contacted.

- Ministry of New and Renewable Energy (Govt. of India)
- National Institute of Solar Energy
- The Energy & Resources Institute
- TUV Rheinland
- UL

DECLARATION of AUTHORIZATION(For Part A,B E and F only)

(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution.)

I/We (name and address of the registered office of the Bidding Company as applicable) do hereby constitute, appoint and authorize Mr./Ms.....(name & residential address) who is presently employed with us and holding the position of.....to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of our Bid for implementation of grid connected Roof top solar PV scheme in response to the NIT No..... dated.....issued by IPGCL, New Delhi including signing and submission of the Bid and all other documents related to the Bid, including but not limited to undertakings, letters, certificates, acceptances, clarifications, guarantees or any other document which the IPGCL may require us to submit.

The aforesaid undertaking is further authorized for making representations to the IPGCL, New Delhi and providing information/responses to IPGCL, New Delhi representing us in all matters before IPGCL, New Delhi and generally dealing with IPGCL, New Delhi in all matters in connection with Bid till the completion of the bidding process as per the terms of the above mentioned NIT.

We here by agree to ratify all acts, deeds and things done by our said undertaking pursuant to this undertaking and that all acts, deeds and things done by our aforesaid undertaking shall be binding on us and shall always be deemed to have been done by us.

All the terms used herein but not defined shall have their meaning ascribed to such terms under the NIT.

Signed by the within named

..... **(Insert the name of the executants company)**
Name: Company:

Phone :

E-mail: Address :

Sincerely

Monthly O&M report

Month and year:

Name of the bidder:

RFS ref no.:

Project Capacity:

Address of the site:

Part A

Component	Activity	Description	Date	Name/Signature	*Remarks
PV Module	Cleaning	Immediately clean any bird droppings/dark spots on module.			
	Cleaning	Clean PV modules with plain water or mild dishwashing detergent.			
	Inspection (for plants > 100kWp)	Infrared camera inspection for hot spots; bypass diode failure.			
PV Array	Inspection	Check the PV modules and rack for any damage.			
	Inspection	If any new objects, such as vegetation growth etc., are causing shading of the array. Remove if any.			
	Vermin Removal	Remove bird nests or vermin from array and rack area.			
Junction Boxes	Inspection	Inspect electrical boxes for corrosion, intrusion of water or vermin. Check position of switches and breakers. Check status of all protection devices.			

Wiring	Inspection	Inspect cabling for signs of cracks, defects, loose connections, corrosion, overheating, arcing, short or open circuits, and ground faults.			
Inverter	Inspection	Observe instantaneous operational indicators on the faceplate. Inspect Inverter housing or shelter for any physical maintenance. Check for connection tightness.			
Inverter	Service	Clean or replace any air filters.			
Instruments	Validation	Verify monitoring instruments (pyranometer etc.) with standard instruments to verify their operation within tolerance limits.			
Transformer	Inspection	Inspect transformer oil level, temperature gauges, breather, silica gel, meter, connections etc.			
Plant	Monitoring	Daily Operation and Performance Monitoring			
Spare Parts	Management	Manage inventory of spare parts.			
Log Book	Documentation	Maintain daily log records.			
Tracker (if any)	Inspection	Inspect gears, gearboxes, bearings, motors.			
	Service	Lubricate bearings, gear as required.			

*Provide details of any replacement of systems/components, damages, plant/inverter shutdown (planned/forced), breakdown, etc under remarks.

*Daily register is to be maintained by the bidder at each location greater than 50 kWp. This may be inspected by DISCOM or its authorized representative at any time 5 years of O&M period. The Register will have the information about the daily generation, Inverter downtime if any, Grid outages.

Part B

Date	Generation kWh	Grid outage (hh:mm)	Inverter down period (hh:mm)	Remarks
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1				
2				
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29				
30				
31				

Total generation for the month in kWh:
Cumulative generations since commissioning in kWh: CUF
for month in %:
Cumulative CUFs since commissioning in %:

Date:

Signature of the Authorised signatory of the Bidder

Vendor Registration/ Customer Registration Format**List / Check List of documents required for Vendor registration:**

1. Filled "Vendor Registration Form". Information against each point is to be furnished, wherever not applicable, NA should be indicated. Page No-
2. Cancelled Cheque/Photo copy of Cancelled cheque (Original Cheque in case of Delhi party/ copy of bank certificate) (Name of the firm and the Account No. should be printed on the cheque not stamped). Page No-
3. Copy of Pan Card Page No-
4. List of Prominent Customers Page No:-
5. Brief description of materials / Services offered Page No:-
6. Registration Copy of ESI & EPF (As applicable or declaration in case of not applicable) Pg. No.
7. Undertaking for not black listed / banned in any department on company letter Head Pg. No:
8. Copy of GST registration Page No:
9. Recent three PO's with highest value executed by the firm to any Govt./Semi Govt. PSU/SEB during last five (05) years Page No.
10. Copy of Quality Assurance Set up Details Page No:-
11. Last three years Balance Sheet/ certificate from Chartered accountant for Annual Turnover and Last three years Income Tax Returns Documents Page No:-
12. Firm desirous of Registration as an authorized dealer/agent/Stockist of manufacturer will submit duly certified Agency agreement and dealership certificate indicating items & their specifications, Quality Control systems and details of the Principal manufacturer Page No:-
13. In case of proprietary firm: An undertaking on the letter heads of vendor, that the person is Proprietor of the firm so his/her PAN no. and Bank account shall be used as the PAN no. and bank Page No:-
14. GST Registration No : Vendor has to submit the registration no and a declaration that under this PAN, no other firm is registered or will be registered Page No:-
15. Copy of MSME registration certificate, if applicable Page No:-

(Signature) On behalf of company)

Note : Please ensure following points before forwarding the Vendor Registration Documents:-

- (1) Vendor applying for registration should affix stamp and sign each page/document/Check List
- (2) The approving/forwarding authority for vendor registration may please affix his stamp
- (3) Numbering of all the enclosed documents and fill in respective rectangular boxes
- (4) Please enclose this filled check list in front of all the documents
- (5) An undertaking (with reason) should be submitted against each NA point separately on letter head
- (6) Vendor has to mention their contact No & Email ID in their vendor registration form

Address:

GM (Contracts & Materials)
220 KV, Sub Station, Pragati Power Station-I,
I.P. State, Ring Road,
New Delhi-110002
Ph: 011-23378857

VENDOR / CUSTOMER REGISTRATION FORM

1.	Name of the Concerns	
2.	Type of Concern	Proprietary / Partnership / Public Ltd / Pvt. Ltd. / Others.
3.	Address Registered Office	
4.	Address Works	
5.	Correspondence Address Office / Works. (Pls. Specify)	
6.	Contact Person	
6. (a)	Name	
6. (b)	Designation	
6. (c)	Phone Office	
7.	Phone Residence	
8.	Mobile No	
9.	Fax No	
10.	Email Id.	
11.	Range of Products / Services Offered	
12.	Banker Name, Address & Account No, (If more than one attach separate sheet)	
13.	ESI Regn No	
14.	PF Regn No	
15.	PAN No	
16.	SSI Regn No/ MSME Regn. No (If any)	

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17.	GST Regn No	
18.	Type of GST Registration	
19.	Name of any Branch, Sister company doing Business with IPGCL across India	
20.	List of prominent clients/ Customers with Name & Contact Nos along with & the copies of executed PO's	
21.	Quality Assurance Set up	

****{NOTE: Copies of all the relevant / statutory registrations and other documents as per check list , as applicable, to be attached along with this form}**

**Signature
(For & On behalf of the company)**

For use by IPGCL

1. Is visit necessary for inspecting facilities / processes: YES / NO If yes please give details: _____
2. Reference check done with other clients: YES / NO
3. Selected as Vendor / Customer YES / NO
If yes, please give justification.

Initiated By	Proposed By	Approved By
Executive	Manager	Head of the Department
Date:	Date:	Date:

(On non-judicial stamp paper of appropriate value)

INDEMNITY BOND

This Indemnity bond is made this _____ day _____ by M/s _____ having its registered office at _____ (herein after called as solar plant developer (SPD) which expression shall include its successors and permitted assigns) in favour of Indraprastha Power Generation Company Ltd. having its registered office at Himadri, Rajghat Power House Complex, New Delhi, (hereinafter called DISCOM which expression shall include its successor and assigns).

Whereas DISCOM has sanctioned to the SPD following Solar projects vide its sanctions letters in terms of which DISCOM is required to release subsidy to the SPD for erection, operation and maintenance of Solar Power Plant:

S. No.	Name & Address of Consumers	CA No.	Capacity of Plant

And whereas by virtue of clause No..... of the said contract, the SPD is required to establish an Insurance Cover for third party liability, however same has not been established and therefore, executing an Indemnity bond in favour of DISCOM for the purpose of performance of the contract (hereinafter called the subsidy)

Now, therefore, this indemnity bond witnesses this as follows:

1. The contractor undertakes to keep DISCOM harmless against any past, future unforeseen loss or damage due to any event/act occurred upto the period of commissioning that may be caused due to non-establishment of Insurance Cover under the contract against which the subsidy has been released by DISCOM.
2. This indemnity bond is irrevocable. The contractor to execute the contract in part / full as per the terms and conditions of the contract, shall be deemed to be a breach of contract and the contractor shall forthwith return the subsidy with interest @ 18% upon demand from DISCOM without demur, reservation or protest and without reference to any arbitrator / tribunal or any other authority whatsoever.
3. Now, the condition of this bond is that if the contractor shall duly and punctually comply with the terms and conditions of this bond to the satisfaction of DISCOM, then the above bond shall be void, but otherwise, it shall remain in full force and virtue.

In witness where of the contractor has here–unto set its hand through its authorized representative under the common seal of the company, the day, month and year first above mentioned.

Witness I
Authorized Representative

For and on behalf of M/s

Signature
Name
Address

Signature
Name
Address

Witness II
Authorized Representative

Signature _____

Name
Address

(Bond should be duly notarized)

Note: *Indemnity Bonds are to be executed by the authorized persons and (i) In case of contracting Company under common seal of the Company or (ii) having the power of attorney issued under common seal of the company with authority to execute Indemnity Bonds, (iii) In case, (ii) the original Power of Attorney if it is specifically for our contract or a Photostat copy of the Power of Attorney if it is a General Power of Attorney and such documents should be attached

DASHBOARD COMPONENTS**SITE LIST**

Column	Description
Site Name	Consumer Name or CA no. where solar PV plant is installed
Address, Zip code	Location and Division details
Peak Power	Displays the peak power from solar array

DASHBOARD

Column	Description
Site Selection Menu	Typically a list of all the solar plants installed in the licensed area
Overview Bar	Displays the current power generated in AC from inverter/s, Energy today and Monthly total energy
Site Summary	Display the relevant details of the plant
Power & Energy	Displays the power and energy graphs which shows the power and energy over a period of time and enables the download of the graphs in all major formats, such as xls, png and jpg
Weather	Displays the local weather conditions , like minimum and maximum temperature, clouds conditions
Solar Radiation (Irradiation)	Displays the daily or monthly peak sun hours from NASA, IMD or MNRE database

PLANT DETAILS

Column	Description
Plant Capacity	Installed Capacity (in Kwp)
Module details	Make and electrical Specification
Module Serial No.	RFID
Last Measured	10-15 mins reading (data fetching frequency)
Current (Amp)	Module output current/Inverter input current
Voltage (V)	Module output voltage/Inverter AC voltage
V DC	Inverter DC voltage
Energy (Wh)	Inverter energy

PART - VII

SCOPE OF WORK

&

TECHNICAL SPECIFICATIONS

The proposed projects shall be commissioned as per the technical specifications given below. Any shortcomings will lead to cancellation of Subsidy in full or part as decided by DISCOM. Domestic Modules are to be used failing which it will be assumed that system is not matching the requirement of the scheme and bidder's PBG shall be forfeited. Competent Authority's decision will be final and binding on the bidder.

1. DEFINITION

A Grid Tied Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables, Junction boxes, Distribution boxes and switches. 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 day time. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable.

Solar PV system shall consist of following equipments/components.

1. Solar PV modules consisting of required number of Crystalline PV cells.
2. Grid interactive Power Conditioning Unit with Remote Monitoring System
3. Mounting structures
4. Junction Boxes.
5. Earthing and lightning protections.
6. IR/UV protected PVC Cables, pipes and accessories

1.1 SOLAR PHOTOVOLTAIC MODULES:

- 1.1.1 For subsidized projects (i.e. for residential projects) only indigenously manufactured PV panels (both cells and modules) should be used.
- 1.1.2 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 IEC 61730 Part 1 - 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.
 - b) The total solar PV array capacity should not be less than allocated capacity (KWp) and should comprise of solar crystalline modules of minimum 300Wp and above wattage. Module capacity less than minimum 300watts shall not be accepted
 - c) Protective devices against surges 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 MNRE/NABL/IEC authorized test Centers.
 - e) The module frame shall be made of corrosion resistant materials, preferably having anodized Aluminium. In case of Mild Steel or High Tensile steel for module mounting structure, minimum coating of zinc for galvanization shall be 610 g/sq.m. as per relevant Indian Standard.
 - f) The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid. DISCOM/owners shall allow only minor

changes at the time of execution.

- g) Other general requirement for the PV modules and subsystems shall be the Following:
- I. The rated output power of any supplied module shall have tolerance within +3%.
 - II. The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.
 - III. The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with captive screws and cable gland entry points or may be of sealed type and IP-65 rated.

1.1.3 I-V curves at Standard Test Condition (STC) should be provided by Bidder. Modules deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each module. This should be inside the laminate only.

- 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

1.1.4 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 sale to the original customer ("Customer")
- 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) fail to conform to this warranty, the manufacturer will repair or replace the solar module(s), at the Owners sole option

b) **Performance Warranty:**

- v. PV modules in solar power plant/systems must be warrants for their output peak watt capacity, it should not be less than 90% at the end of 10 years and 80% at the end of 25 years. If the supply of solar module not meet the criteria of power output than bidder should replace it.

12 ARRAY STRUCTURE

- a) Hot dip galvanized MS mounting structures may be used for mounting the modules/panels/arrays. Minimum thickness of the galvanization should be 85 microns for steel. 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.

- b) 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 (like Delhi-wind speed of 170km/ hour corresponding to Wind Zone-4 as per IS-875). 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 DISCOM. Suitable fastening arrangement such as grouting and calms should be provided to secure the installation against the specific wind speed.
- c) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759.
- d) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Aluminum structures also can be used which can withstand the wind speed of respective wind zone. Protection towards rusting need to be provided either by coating or anodization.
- e) The fasteners used should be made up of stainless steel with strictly provision to seal with adhesive/sealant / glue for avoiding from rust and corrosion and prevents loosening from shock and vibration. 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
- f) 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.
- g) The total load of the structure (when installed with PV modules) on the terrace should be less than 60 kg/m^2 .
- h) Provision for safe and secure access to roof top as well as arrangement of proper cleaning of entire arrays i.e walkways, ladders and platforms on elevated/ above ground structures shall be in the scope of vendor, if required.

13 JUNCTION BOXES (JBs)

- a) 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 and Conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. All wires/cables must be terminated through cable lugs. The JB shall be such that input & output termination can be made through suitable cable glands.
- b) 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 earthing. It should be placed at 5 feet height or above for ease of accessibility.
- c) Each Junction Box shall have High quality Suitable capacity Fuses and SPD's of latest reputed make and model with relevant IS certifications having provision for proper grounding of Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.
- d) 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.
- e) All fuses shall have DIN rail mountable fuse holders and shall be housed in thermoplastic IP 65 enclosures with transparent covers.

1.4 DC DISTRIBUTION BOARD:

- a) DC Distribution panel to receive the DC output from the array field.
- b) 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.
- c) DCDB not required, if PCU/ inverter having inbuilt DC fuses and SPD protection.

1.5 AC DISTRIBUTION PANEL BOARD:

- a) AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary AC surge arrestors with proper grounding and disconnection Switch or Breaker. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.
- b) All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.
- c) The changeover switches, cabling work should be undertaken by the bidder as part of the project.
- d) 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, 50Hz
- e) The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.
- f) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.
- g) Should conform to Indian Electricity Act and rules (till last amendment).
- h) 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

1.6 PCU/ARRAY SIZERATIO:

- a) The combined wattage of all inverters should not be less than rated capacity of power plant under STC. Maximum DC to AC ratio allowed is 1.1.
- b) Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.

1.7 PCU/Inverter:

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:

Switching devices	IGBT/MOSFET
Control	Microprocessor /DSP
Nominal AC output voltage and Frequency	415V,3Phase,50Hz(In case single phase inverters are offered, suitable arrangement for balancing the phases must be made.)
Output frequency	50 Hz
Grid Frequency Synchronization range	+/- 5 Hz
Ambient temperature considered	-20 ^o C to 50 ^o C
Humidity	95 % Non-condensing
Protection of Enclosure	IP-54(Minimum) for indoor. IP-65(Minimum) for outdoor.
Grid Frequency Tolerance range	+/- 5 Hz
Grid Voltage tolerance	+ / - 10 %
No-load losses	Less than 1% of rated power
Inverter efficiency(minimum)	>93% (In case of 10 kW or above with in-built galvanic isolation)
	>97% (In case of 10 KW or above without in- built galvanic isolation)
Inverter efficiency (minimum)	> 90% (In case of less than 10 kW)
THD	As per IEEE 519 as amended from time to time
PF	> 0.9

- a) Three phase PCU/ inverter shall be used with each power plant system (10kW and/or above) but in case of less than 10kW single phase inverter can be used. Three phase PCU/ inverter shall be used with three-phase supply whereas Single phase PCU/inverter shall be used with single-phase supply to consumer from the grid as per DERC Supply Code Regulations as amended from time to time.
- b) PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
- c) 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.
- d) Built-in meter and data logger to monitor plant performance shall be provided.
- e) 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.
- f) Successful Bidders shall be responsible for galvanic isolation of solar roof top power plant (>10 kW) with electrical grid or LT panel.
- g) In PCU/Inverter, there shall be a direct current isolation provided at the output by means of a suitable isolating transformer. If Isolation Transformer is not incorporated with PCU/Inverter, there shall be a separate Isolation Transformer of suitable rating provided at the output side of PCU/PCU units for capacity more than 10 kW.
- h) 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 as amended from time to time.

- i) 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 BISStd.
- j) The 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 529 specifications.
- k) The PCU/ inverters should be tested from the MNRE approved test centers/ NABL/ BIS/ IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international testhouses.

2. 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. In case of synchronization of PV with DG set, it is to be ensured that solar power does not get exported to grid or DG. Any provisions related to electricity safety should be complied with.

3. 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 Metering and Instrumentation for display of systems parameters and status indication to be provided.
- iii. The system should have feature of open API for inbuilt or external data loggers is mandatory for all plants. Typical parameters of dash board is included at **Annexure-R**.
- iv. **Weather Monitoring for Solar Plant capacity 100 KW and above:**
 - A. 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.
 - B. Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with readouts integrated with the data logging system.
- 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. PV array energy production: Digital Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. Energy meter along with CT/PT should be of 0.5 accuracy class.
- viii. Computerized DC String/Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or separately.
- ix. String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phases and lines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored.
- x. Computerized AC energy monitoring shall be in addition to the digital AC energymeter.
- 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. Software shall be provided for USB download and analysis of DC and AC parametric data for individual

- 1 plant.
- xiii. Provision for instantaneous Internet monitoring and download of historical data shall be also incorporated.
 - xiv. Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system.
 - xv. Ambient / Solar PV module back surface temperature shall be also monitored on continuous basis.
 - xvi. 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.
 - xvii. Remote Monitoring and data acquisition through Remote Monitoring System software at the owner / 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 bidder.
 - xviii. The bidders shall be obligated to push real-time plant monitoring data on a specified intervals (say 15 minute) through open protocol at receiver location (cloud server) in XML/JSON format, preferably. Suitable provision in this regard will be intimated to the bidders.
 - xix. The bidder shall be obligated to measure the harmonic current injection, Direct Current injection and flicker with calibrated meters before the commissioning of the project and once in a year in presence of the DISCOM official and the beneficiary of the project at a mutually convenient date.

4. TRANSFORMER “IF REQUIRED” & METERING:

- a) Dry/oil type relevant kVA, 11kV/415V, 50Hz Step up along with all protections, switch gears, Vacuum circuit breakers, cables etc. along with required civil work.
- b) The bidirectional electronic energy meter (0.5 S class) shall be installed for the measurement of import/Export of energy. A suitable device for earth leakage protection (ELCB) along with MCB/MCCB shall be installed by the bidder for getting the net-meter installed by DISCOM.
- c) 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 DISCOM before commissioning of SPV plant.
- d) Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement.

5. POWER CONSUMPTION:

- a) Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid. Finalization of tariff is not under the purview of DISCOM or MNRE. Decisions of appropriate authority like state regulator may be followed.

6. PROTECTIONS

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

6.1 LIGHTNING PROTECTION

The SPV power plants shall be provided with lightning & overvoltage protection. The main aim in this protection shall be to reduce the over voltage 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 IEC 62305 standard and CEA safety Regulations amended from time to time. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable and separate earthing such that induced transients find an alternate route to earth. The earthing conductor made up of dip galvanized steel, should be installed with GI strip insulator or 16 Sq mm or above copper conductor only.

6.2 SURGE PROTECTION

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

6.3 EARTHING PROTECTION

6.3.1 The PV module structure components shall be electrically interconnected and shall be grounded.

6.3.2 Earthing shall be done in accordance with IS 3043-1986, provided that earthing conductors shall have a minimum size of 6.0 mm² copper, 10 mm² Aluminum or 70 mm² hot dip galvanized steel. Unprotected aluminum or copper-clad aluminum conductors shall not be used for final underground connections to earth electrodes.

6.3.3 A minimum of two separate dedicated and interconnected earth electrodes must be used for the earthing of the solar PV system support structure with a total earth resistance not exceeding 5 Ohm.

6.3.4 The earth electrodes shall have a precast concrete enclosure with a removable lid for inspection and maintenance. The entire earthing system shall comprise non-corrosive components.

6.3.5 In case LA earthing conductors made up of dip galvanized steel, the conductor should have GI Strip Insulator.

6.3.6 Total Nos. of Earth pits for Solar PV plant:

6.3.6.1 For Solar PV plant upto 25KW: 03 Nos. Earth pits: AC-01, DC-01, LA-01

6.3.6.2 For Solar PV plant above 25KW: 05 Nos. Earth Pits: AC-02, DC-02, LA-01 (double run of earthing conductors for AC & DC)

6.4 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 4-pole 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. The isolation switch shall meet the following requirements:

- allow visible verification that separation has been accomplished;
- include indicators to clearly show open and closed positions;
- be capable of being reached quickly and conveniently twenty four hours a day by licensee's personnel without requiring clearance from the applicant;
- be capable of being locked in the open position (LOTO);
- may not be rated for load break nor may have feature of over-current protection; and
- be located at a height of at least 2.44 m above the ground level.

7 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°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. Multi Strand, Annealed high conductivity Cable (As per MNRE Guideline issued) conductor PVC type 'A' pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection Armored cable for underground laying.
- 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^2 copper; the minimum AC cable size shall be 4.0 mm^2 copper. In three phase systems, the size of the neutral wire size shall be equal to the size of the phase wires. The suitable required size copper cable to be used from inverter to ACDB. 4 Core Aluminum/ Copper armored cables of required size in case of three phase inverter and 2 Core Aluminum/ Copper armored cables of required size in case of single phase inverter as per IS-894 as amended from time to time shall be used from ACDB to LT panel only. Individual single core cables are not permitted for AC termination as well as for earthing in the cables cores. Cable Should embossed with proper manufacture Name, Size and Dimension of Core.
- 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 onemeter.
- xiv. Cable Jacket should also be electron beam cross-linked XLPO, flame retardant, UV resistant and black incolour.
 - 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 1.1kV as per relevant standardsonly.
 - 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. 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.
 - xvii. 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: 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 /IEC69947.
 - xviii. The total voltage drop on the cable segments from the solar PV modules to the solar grid inverter shall not exceed 2.0%.
 - xix. The total voltage drop on the cable segments from the solar grid inverter to the building distribution board shall not exceed 2.0%.

8 CONNECTIVITY

The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the Distribution Code/Supply Code of the State and amended from time to time. Following criteria have been suggested for selection of voltage level in the distribution system for ready reference of the solar suppliers.

Plant Capacity	Connecting voltage
Up to 10 kW	240V-single phase or 415V-three phase at the option of the consumer.
Above 10kW and up to 100 kW	415V – three phase
Above 100kW	As per DISCOM rules

- a) There is no maximum permissible capacity for rooftop for a single net metering point, however, CFA shall be limited to 500kW as per MNRE Phase-II operational guidelines vide letter No.3 18/331/20 17-Grid Connected Rooftop dated 20.08.2019.
- b) Utilities may have voltage levels other than above, DISCOMS may be consulted before finalization of the voltage level and specification be made accordingly.
- c) Evacuation of Solar power to LT/ HT panel of Consumer at Ground floor level and solar meter location should be adjacent to the location of existing meter or as per requirement of DISCOM.

- d) Single phase inverters are allowed in single phase supply and three phase inverters are allowed in three phase supply system from the grid to consumer.

9 TOOLS & TACKLES AND SPARES:

- a) 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 DISCOM/owner.
- b) 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 along with spare set of PV modules be indicated, which shall be supplied along with the equipment. A minimum set of spares shall be maintained in the plant itself for the entire period of warranty and Operation & Maintenance which upon its use shall be replenished.

10 DANGER BOARDS AND SIGNAGES:

- a) Danger boards should be provided as and where necessary as per IE Act. /IE rules as amended up to date. Text of the signage may be finalized in consultation with DISCOM/owner. The minimum signages to be provided are as under:
- Danger board
 - DC conduit with label “PV POWER SOURCE”
 - Main Switch/LT Panel with label “DUAL SUPPLY”
 - Roof with label “SOLAR PLANT INSTALLED – ONLY TRAINED PERSONNEL SHOULD TOUCH EQUIPMENT”
 - Basic Safety DOS’ and DONT’S chart
 - Shutdown Procedure Chart
 - Signage board or sticker with 10cm width and 7cm height with text clearly printed
 - Sign board at meter reading terminal, with label “THIS SERVICE IS FITTED WITH a LT GRID CONNECTED SPV PLANT”
 - Solar PV plant caution at consumer main switch, LT poles, LT feeder pillars

11 FIRE EXTINGUISHERS:

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

- a) Portable fire extinguishers for fire caused by electrical short circuits.
- b) Sand buckets.
- c) The installation of Fire Extinguishers should confirm to TAC regulations and BIS standards. The fire extinguishers shall be provided on the roof for site where the PV array have been installed.

12 DRAWINGS & MANUALS:

- a) Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Bidders shall provide complete technical data sheets 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.
- b) Approved ISI and reputed makes for equipment be used.
- c) For complete electro-mechanical works, bidders shall supply complete design, details and drawings for approval to DISCOM/owners before progressing with the

installationwork.

13 PLANNING ANDDESIGNING:

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

14 DRAWINGS TO BE FURNISHED BY BIDDER AFTER AWARD OFCONTRACT

The Contractor shall furnish the following drawings Award/Intent and obtain approval:

- 14.1 General arrangement and dimensionedlayout.
- 14.2 Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, metersetc.
- 14.3 Structural drawing along with foundation details for thestructure.
- 14.4 Itemized bill of material for complete SV plant covering all the components and associated accessories.
- 14.5 Layout of solar PowerArray.
- 14.6 Shadow analysis of theroof.

15 SAFETYMEASURES

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.

16 DISPLAY BOARD

The bidder has to display a board at the project site (above 10KWp) mentioning the following:

- a. Plant Name, Capacity, Location, Date of commissioning, estimated Powergeneration.
Financial Assistance details from DISCOM/ Any other financial institution apart from loan. This information shall not be limited to project site but also be displayed at site offices/head quarter offices of the successfulbidder
- b. The size and type of board and display shall be approved by Engineer-in-charge before site inspection.

All the IEC standards to be mandatorily adhered as specified in this RfS.