

RAIPUR SMART CITY LIMITED

(SPV OF Government of Chattisgarh)

Invites Request for Selection (RFS) of Bidders For

**Implementation of Grid Connected Roof
Top Solar PV System (RESCO Model) Scheme
On the
Roofs of Government Buildings**

RFS No: 288/RSCL/ 2017

Dated: 22/06/2017

“Managing Director,
Raipur Smart City Limited,
Ground Floor, Indoor Stadium,
Opp Budha Taalab, Raipur 492 001
Phone 0771 - 0771-2227395 email
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DISCLAIMER

The information contained in this Tender document (the "Tender") or subsequently provided to Bidder(s), whether verbally or in documentary or any other form by or on behalf of Raipur Smart City Limited (RSCL) or any of their employees or advisors, is provided to Bidder(s) on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This Tender is not an agreement and is neither an offer nor invitation by RSCL to the Bidders or any other person. The purpose of this Tender is to provide interested parties with information that may be useful to them in preparing their proposals pursuant to this Tender (the "Bid/ Proposal"). This Tender includes statements, which reflect various assumptions and assessments arrived at by RSCL in relation to the Assignment. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFP may not be appropriate for all persons, and it is not possible for RSCL, its employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this Tender. The assumptions, assessments, statements and information contained in this Tender, may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this Tender to the Bidder(s) is on a wide range of matters, some of which depends upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. RSCL accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

RSCL, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Bidder or Bidders under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this Tender or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the Tender and any assessment, assumption, statement or information contained therein or deemed to form part of this Tender or arising in any way in bidding process. Though adequate care has been taken in the preparation of this Tender Document, the Bidder should satisfy himself/ itself that the documents are complete in all respects.

RSCL accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance by any Bidder upon the statements contained in this Tender.

RSCL may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this RFP.

The issue of this Tender does not in any way imply that RSCL is bound to select a Bidder or to appoint the Preferred Bidder for the Assignment and RSCL reserves the right to reject all or any of the Bidders or Bids without assigning any reason whatsoever

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Bid including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by RSCL or any other costs incurred in connection with or relating to its Bid. All such costs and expenses will remain with the Bidder and RSCL shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation for submission of the Bid, regardless of the conduct or outcome of the Bidding Process

PART – I

INVITATION

FOR

BIDS (IFB) & BID DETAILS

NATIONAL INVITATION FOR BIDS (NIFB)

FOR

Implementation of 2155 kW Grid Connected Roof Top Solar PV System Scheme for Government Buildings in the City of Raipur C.G. India Under RESCO Model

(SINGLE STAGE TWO ENVELOPE BIDDING)
under e-procurement

- 1.0 Government of India has launched Jawaharlal Nehru National Solar Mission (JNNSM) which now has a target of 100,000 MW of grid solar power by 2022, out of which grid connected rooftop Solar PV systems is considered as very potent area and has a target of 40,000 MW. To achieve energy security and for having good optics, it is envisaged to develop solar rooftop projects on large scale by utilising vacant roofs of buildings and adjoining lands of the campus etc.
- 2.0 MNRE (Ministry of New and Renewable Energy, Government of India) desires to implement grid connected rooftop solar PV projects on the roofs of Government buildings/offices as well as ground mounted Solar PV systems as a part of its Renewable Energy Initiatives.
- 3.0 The procurement activities in respect of the aforesaid Project on behalf of Ministry of New and Renewable Energy, Government of Chattisgarh has been entrusted to Raipur Smart City Limited (A SPV of Government of Chattisgarh) incorporated under the Companies Act, 2013, having its Registered Office at Ground Floor, Outdoor Stadium, Budha Taalab, Raipur, (C.G.) 492001 (hereinafter referred to as 'RSCL/ EMPLOYER) and RSCL intends to use funds to be provided by Govt of India/Chattisgarh for eligible payments under the contract for package as mentioned above. For the purpose of all procurement activities related to the said works, RSCL shall be referred to as 'Employer' and 'Raipur Municipal Corporation' as "the Owner".
- 4.0 RSCL, therefore, invites sealed bids from eligible bidders to participate in Request for Selection (RFS) for Site Survey, Design, Manufacture, Supply, Erection, Testing and Commissioning including Warranty, Operation and Maintenance of Roof Top Solar PV Power System in different Government buildings in the City of Raipur.
- 5.0 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 and e-procurement Portal of Government of Chattisgarh (<https://eproc.cgstate.gov.in>).
- 6.0 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 in presence of authorised representatives of bidders who wish to be present. Bid proposals received without the prescribed bid processing fees and Bid Bond will be rejected. In the event of any date indicated above is a declared Holiday, the next working day shall become operative for the respective purpose mentioned herein.
- 7.0 Bid documents which include Eligibility Criteria, Technical Specifications, various Conditions of Contract, Formats etc. can be downloaded from e-procurement Portal of Government of Chattisgarh (GoC) (<https://eproc.cgstate.gov.in>). It is mandatory to download official copy of RFS Document from e-procurement Portal of GoC in order to participate in the Tender. Any amendment(s)/corrigendum/clarification(s) with respect to this Bid shall be uploaded on e-

- procurement portal only. The Bidder should regularly check for any Amendment(s)/Corrigendum/Clarification(s) on the above website only.
- 8.0 The bidding process under this Rooftop scheme is for 2155 kWp comprising of RESCO Model
- 9.0 This is bidding in Chattisgarh State, there will be only one price for all the bidders for RESCO Model (Rs. ---- Per kWh - Tariff). Hence matching of L-1 Price needs to be adhered upon.
- 11.0 Successful Bidder can avail loan facility from IREDA with attractive rates of interest in co-ordination with RSCL subject to meeting the lending requirement of IREDA.
- 12.0 To ensure timely payments to successful bidders / developers under RESCO Model, Payment Security Mechanism (PSM) has been provided by RSCL. The aim is to give comfort to the developers for assured & timely payment for the energy supplied to Roof Top Owner.
- ~~13.0~~ The bidding process under this rooftop scheme is for RESCO Only for government buildings
- 13.0 The detailed scope of work includes :
- 13.1 List of Identified rooftops indicating potential for proposed installation capacity has been enclosed herewith this RFS documents as Annexure - II. Successful bidders are requested to visit the respective sites and check the feasibility of space including installation capacity in consultation with respective site incharge / owner. Successful bidders need to submit project sanction documents (PPA / EPC agreement between successful bidder and the rooftop owner(s) at the quoted project cost / tariff as per RFS and project report) for the approval of RSCL for issuance of project specific sanction letter(s). The PPA and EPC shall be executed in the prescribed format attached herewith this RFS document which have duly been vetted by Department of Legal Affairs, Ministry of Law & Justice, Department of Expenditure, Ministry of Finance and provided by Ministry of New and Renewable Energy. However RSCL shall facilitate the process.
- 13.2 Site Survey, feasibility, 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 25 years for RESCO after commissioning of project.
- 14.0 Based on the Bid capacity proposed by the bidder in the bid, Bid Bond/EMD shall be furnished 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 RSCL (offline).
- 15.0 PBG amount shall be furnished by the successful bidder after issuance of LOA/NOA by RSCL.

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 sub headings in the contract has been inserted for case of reference only & shall not affect the interpretation of this agreement.

BID INFORMATION SHEET

Document Description	Implementation of 2155 kW Grid Connected Roof Top Solar PV System Scheme for Government Buildings in the City of Raipur, Chattisgarh Under RESCO Model
RFS No.& Date	288/RSCL/2017 dated 22/06/2016
Funding	Domestic
Location	Different Government Buildings in the City of Raipur (List of Proposed Govt. Buildings Capacity Wise is enclosed in the Annexure-II). It may be noted that the list is indicative only. Final feasibility of space and capacity shall be assessed by respective bidders.
Downloading of RFS document	From 22/06/2017 on GoC Portal https://eproc.cgstate.gov.in
Period of work	12 (Twelve) Months from the date of issuance of NOA/LOA
Pre-bid Conference / Clarification Meeting.	03/07/2017 at 11.30 HRS to be held at RSCL Office
Last date & Time for Online Submission of bids	13/07/2017 upto 17.30 HRS
Last date & Time physical submission of offline document at RSCL office, Opp. Budha Talab, Outdoor stadium, Raipur	14/07/2017 upto 17.30 HRS
Online Bid Opening (Techno-Commercial)	14/07/2017 at 17.30 HRS
Financial Bid Opening	To be intimated subsequent to short listing of techno-commercial bids
Bid Processing Fee (Non-refundable)	INR 20,000/- (Indian Rupees Twenty Thousand Only) (inclusive of Service Tax) (to be submitted in the form of DD / FDR, along with the bid in favour of "Managing Director, Raipur Smart City Limited, Raipur" payable at Raipur)

EMD	Earnest Money INR 1300000/- (Indian Rupees Thirteen lacs only) for the capacity quoted Minimum validity period up to 180 days, may be extended for further period as per instruction of RSCL
Joint Venture	Allowed
Name, Designation, Address and other details (For Submission of Response to RfP)	Managing Director, Raipur Smart City Limited, Ground Floor, Outdoor Stadium, Opp Budha Taalab, Raipur, C.G. Phone Phone 0771 - 0771-2227395 Email ceo.rscl@gmail.com
Address of e-procurement Office (For Registration and Clarifications regarding GoC Portal)	e-Procurement system, M/s. Mjunction Service Ltd. on Help DeskToll free No. 1800 258 2502 or email helpdesk.eproc@cgswan.gov.in .
Details of persons to be contacted in case of any assistance required	Mr. Shailesh Kumar Soni, Sr. Manager, Chhattisgarh Infotech & Biotech Promotion Society(CHIPS) on Tel. No. 0771 - 4014158 or email: pro-chips@nic.in .
<u>Important Note:</u> Prospective Bidders are requested to remain updated for any notices/amendments/clarifications etc. to the tender document through the e-procurement Portal of Government of Chattisgarh (GoC) (https://eproc.cgstate.gov.in). No separate notifications will be issued for such notices/amendments/clarifications etc. in the print media or individually. Intimation regarding notification/amendments/clarifications etc. shall be updated on e-procurement Portal of Government of Chattisgarh (GoC) (https://eproc.cgstate.gov.in).	

PART – II

INSTRUCTIONS TO BIDDERS (ITB)

1. INTRODUCTION

- 1.1 MNRE launched a pilot scheme, which is available on the MNRE website, for promotion of large scale grid-connected roof top solar PV projects and RSCL has initiated to implement in the City of Raipur for this scheme. The generated solar power may be utilized for captive application 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 2155 kWp in various states across the country envisages installation of grid-connected roof top solar PV projects on the roofs of entities as specified by MNRE vide notification no. 03/88/2015-16/GCRT dated 04th May'2016:
- 1.2 On behalf of MNRE, RSCL, which expression shall also include its successors and permitted assigns, hereby invites interested companies to participate in the bidding process for the selection of successful bidder(s)/developer(s) for implementation of large scale grid-connected Roof Top Solar Photovoltaic Projects under this scheme in the States as per RFS Annexure-II.
- 1.5 The Bidder is advised to read carefully all instructions and conditions appearing in this document and understand them fully. All information and documents required as per the bid document must be furnished. Failure to provide the information and / or documents as required may render the bid technically unacceptable.
- 1.6 The bidder shall be deemed to have examined the bid document, to have obtained his own information in all matters whatsoever that might affect carrying out the works in line with the scope of work specified elsewhere in the document at the offered rates and to have satisfied himself to the sufficiency of his bid. The bidder shall be deemed to know the scope, nature and magnitude of the works and requirement of materials, equipment, tools and labour involved, wage structures and as to what all works he has to complete in accordance with the bid documents irrespective of any defects, omissions or errors that may be found in the bid documents.

2. BID DETAILS

- 2.1 The bidding process under this rooftop scheme is for 2155 kWp capacity under RESCO Model in different buildings in the City of Raipur as per Annexure-II of RFS. An indicative capacity allocated to the Buildings is mentioned in the Tables given hereunder in Clauses 2.1.1 and 2.1.3.
- 2.1.3 Bids in RESCO model for 2155 kWp
In RESCO, bids are invited from the prospective bidders for the Tendered Capacity as indicated below against each State. The bidding is in levelized tariff. Tariff stream quoted by the bidder shall then be levelized with a discounting rate of 11%. Capacity will be allocated

based on the lowest levelized tariff for 25 years quoted by the bidder for each State subject to Clause 3.3 of RFS.

Maximum allowable levelized tariff for this part over 25 years assuming the discounting rate of 11% only as follow:

For Chattisgarh State	Levelised Ceiling Tariff (Rs/kWh)
	7.00 (Calculated as per CERC norms)

The bids with levelized tariff in excess of above said levelized tariffs shall be out rightly rejected. Calculation of levelized tariff is provided in Annexure-I (Price Bid, Format - B).

2.1.4 Tariff stream quoted by the bidder shall further confirm to the following:

2.1.4.A Tariff in any year shall either be equal to or more than the tariff in the immediately preceding year.

2.1.4.B Tariff in the first three years shall not exceed Rs. 6.00 Per kWh.

2.2 SIZE OF THE PROJECTS:

2.2.1 The size of each project shall be in the range from above 1 kWp to 500 kWp under RESCO. One project may however comprise of several rooftop units. Each roof top unit can separately connect with the grid and may have separate meters.

2.3 BID CAPACITY:

2.3.1 The Bidder shall apply for full capacity. Bids shall be submitted for the full bid capacity of 2155 kWp.

2.3.2 Bidder's Bid with quoted capacity less than the minimum tendered capacity shall be out rightly rejected.

2.3.3 RSCL reserves the right to allocate part capacity also to the bidder on the basis of outcome of the bidding.

3.0 BID DETAILS

3.1. Bidder must meet the eligibility criteria independently as Bidding Company or as a Bidding Consortium with one of the members acting as the Lead Member of the Bidding Consortium. 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.

In case of a Bidding Consortium, the Financial Eligibility criteria like Annual turnover or Net worth as indicated in Clause 3.3.3 shall be fulfilled by the Lead Member or Parent Company of the Lead Member while the Technical Eligibility Criteria shall be fulfilled by consortium members. In case bidder is a consortium, a Consortium Agreement as per the Format - 10 shall be furnished along with the bid.

- 3.1.1. Financial Consortium is not allowed in this Bidding Process. Consortium is only permitted for Technical Partnership as per Format - 10. Further in-case where the bidding company has used the financial eligibility criteria of its parent company then it needs to be ensured that no change in the controlling equity of the Bidding Company is done before 2 years from the date of commissioning of the sanctioned capacity requires prior approval of RSCL.

All members of the consortium should be registered as a Company only.

However, Members of the Consortium may form the Project Company as specified in Clause 3.3.4 and 3.3.5. Bidder including its member of the consortium can submit one bid only under Part A for each State. Similarly, Bidder including its member of the consortium can submit one bid only under RESCO for each State.

- 3.1.2. Bidder can however use the technical and financial strength of its Parent Company/Affiliate's to fulfil the Technical and/or Financial Eligibility criteria mentioned below. 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 or Affiliate 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 RSCL's future tenders.

3.2 SPECIAL INSTRUCTIONS TO BIDDERS FOR E-TENDERING

GENERAL

Guidelines for bidders on using Integrated eProcurement System Govt. of Chhattisgarh.
<https://eproc.cgstate.gov.in>

Note: These conditions will over-rule the conditions stated in the tender document(s), wherever relevant and applicable.

1. Vendor / Bidder Registration on the e-Procurement System:

All the Users / Bidders (Manufacturers / Contractors / Suppliers / Vendors / Distributors etc.) registered with and intending to participate in the Tenders of various Govt. Departments / Agencies / Corporations / Boards /Undertakings under Govt. of Chhattisgarh processed using the Integrated e-Procurement System are required to get registered on the centralized portal <https://eproc.cgstate.gov.in> and get approval on specific class (e.g. A, B, C, D, UGE, UDE) from Public Works Department (in case to participate in tenders restricted to vendors / bidders in a particular class).

The non – registered users / bidders who are also eligible to participate in the tenders floated using the e-Procurementsystem are also required to be registered online on the e-Procurement system.

Vendors are advised to complete their online enrolment / registration process on the portal well in advance to avoid last minute hassle, it is suggested to complete enrolment at least four days before the last date of bid submission date, failing which may result in non-submission of bids on time for which vendor/end user shall be solely responsible.

For more details, please get in touch with e-Procurement system integrator, M/s. Mjunction Services Limited, Raipur – 492 001 on Toll free 1800 258 2502 or email helpdesk.eproc@cgswan.gov.in.

2. Digital Certificates:

The bids submitted online must be signed digitally with a valid Class II / Class – III Digital Signature Certificate to establish the identity of the bidders submitting the bids online. The bidders may obtain pair of Encryption & Signing Class – II / Class – III Digital Certificate issued by an approved Certifying Authority (CA) authorized by the Controller of Certifying Authorities (CCA), Government of India.

Note: It may take upto 7 to 10 working days for issuance of Class-II/Class-III Digital Certificate, therefore the bidders are advised to obtain it at the earliest. It is compulsory to possess a valid Class-II / Class-III Digital Certificate while registering online on the above mentioned e-Procurement portal. A Digital Certificate once mapped to an account / registration cannot be remapped with any other account / registration however it may be inactivated / deactivated.

Important Note: bid under preparation / creation for a particular tender may only be submitted using the same digital certificate that is used for encryption to encrypt the bid data during the bid preparation / creation / responding stage. However bidder may prepare / create and submit a fresh bid using his/her another / reissued / renewed Digital Certificate only within the stipulated date and time as specified in the tender.

In case, during the process of a particular bid preparation / responding for a tender, the bidder loses his/her Digital Certificate because of any reason they may not be able to submit the same bid under preparation online, Hence the bidders are advised to keep their Digital Certificates secure to be used whenever required and comply with IT Act 2000 & its amendments and CVC guidelines.

The digital certificate issued to the authorized user of an individual / partnership firm / private limited company / public limited company / joint venture and used for online bidding will be considered as equivalent to a no-objection certificate / power of attorney to the user.

Unless the certificate is revoked, it will be assumed to represent adequate authority of the specific individual to bid on behalf of the organization / firm for online tenders as per Information Technology Act 2000. This authorized user will be required to obtain a valid Class-II / Class-III Digital Certificate. The Digital Signature executed through the use of Digital Certificate of this authorized user will be binding on the organization / firm. It shall be the responsibility of management / partners of the concerned organization / firm to inform the Certifying Authority, if the authorized user changes, and apply for a fresh digital certificate for the new authorized user.

3. **Online Payment:** As the bid is to be submitted only online, bidders are required to make online payment(s) of the Registration fee / Transaction or Service fees / EMD using the online payments gateway services integrated into the e-Procurement system using various payment modes like Credit Card / Debit Card / Internet Banking / Cash Card / NEFT / RTGS etc.

For the list of available online modes of electronic payments that are presently accepted on the online payments gateway services, please refer the link 'Payments accepted online' on the eProcurement portal <https://eproc.cgstate.gov.in>.

4. **Setup of User's Computer System:** In order to operate on the e-Procurement system for a bidder / user, the computer system / desktop / laptop of the bidder is required to have Java ver. 765 , Internet Explorer 9 / 11, latest Mozilla Firefox with IE Tab V2 (Enhanced IE Tab) or any other latest browser. A detailed step by step document on the same is available on the home page. Also internet connectivity should be minimum one MBPS.
5. **Publishing of N.I.T.:** For the tenders processed using the e-Procurement system, only a brief advertisement notice related to the tender shall be published in the newspapers and the detailed notice shall be published only on the e-Procurement system. Bidders can view the detailed notice, tender document and the activity time schedule for all the tenders processed using the e-Procurement system on the portal <https://eproc.cgstate.gov.in>.
6. **Tender's Critical Dates & Time/Tender Time Schedule:** The bidders are strictly advised to follow the tender time for their side for tasks/activities and responsibilities to participate in the tender, as all the activities/ tasks of each tender are locked before the start time & date and after the end time & date for the relevant activity of the tender as set by the concerned department official.
7. **Download Tender Document(s):** The tender documented supporting document(s) if any can be downloaded only online. The tender document(s) will be available for download to concerned bidders after online publishing of the tender and up to the stipulated date & time as set in the tender.
8. **Submit Online Bids:** bidders have to submit their bid online after successful filling of forms within the specified date and time as set in the tender.

The encrypted bid data of only those bidders who have submitted their bids within the stipulated date & time will be accepted by the e-Procurement system. It is expected that the bidder complete his bid and submit within timeline, a bidder who has not submitted his bid within the stipulated date & time will not be available during opening.

Bid documents uploading during bid preparation should be less than five MB (for individual document) and over all bid documents should be less than fifty MB.

9. **Submission of Earnest Money Deposit:** The bidders shall submit their Earnest Money Deposit either as usual in a physically sealed Earnest Money Deposit envelope and the same should reach the concerned office. Bidders also have to upload scanned copy of Earnest Money Deposit.
10. **Opening of Tenders:** The concerned department official receiving the tenders or his duly authorized officer shall first open the online Earnest Money Deposit envelope of all the bidders and verify the same uploaded by the bidders. He / She shall check for the validity of Earnest Money Deposit as required. He / She shall also verify the scanned documents uploaded by the bidders, if any, as required. In case, the requirements are incomplete, the

next i.e. technical and commercial envelopes of the concerned bidders received online shall not be opened.

The concerned official shall then open the other subsequent envelopes submitted online by the bidders in the presence of the bidders or their authorized representatives who choose to be present in the bid opening process or may view opened details online.

- 11. Briefcase:** Bidders are privileged to have an online briefcase to keep their documents online and the same can be attached to multiple tenders while responding, this will facilitate bidders to upload their documents once in the briefcase and attach the same document to multiple bids submitting.

For any further queries / assistance, bidders may contact:

1. The Service Integrator of e-Procurement system, M/s. Mjunction Service Ltd. on Help Desk Toll free No. 1800 258 2502 or email helpdesk.eproc@cgswan.gov.in.
2. Mr. Shailesh Kumar Soni, Sr. Manager, Chhattisgarh Infotech & Biotech Promotion Society(CHiPS) on Tel. No. 0771 - 4014158 or email: pro-chips@nic.in.

3.3 ELIGIBILITY CRITERIA

3.3.1 GENERAL ELIGIBILITY CONDITIONS

The Bidder should be a body incorporated in India under the Companies Act, 1956 or 2013 including any amendment thereto, Government owned Enterprises, foreign company(ies) from all countries in the World who are registered and incorporated in their respective countries as per the local act and engaged in the business of Power/Infrastructure, Limited Liability Partnership Firms and MSME Vendors, barring Government Department as well as those firms from the countries against whom sanction for conducting business is imposed by Government of India and barring those firms with whom business is banned by the Employer. A copy of certificate of incorporation shall be furnished along with the bid in support of above.

The Bid Processing Fees and Bid Bond are exempted for MSME Vendors / Developers registered under NSIC / Udyog Aadhaar Category only.

3.3.2 TECHNICAL ELIGIBILITY CRITERIA:

The Bidder should have designed, supplied, installed & commissioned at least Grid connected Solar PV Power Projects having a capacity of not less than 500 kW within last three financial year. The list of project commissioned indicating the project is grid connected, along with a scanned copy of the Commissioning certificate and Work order /

Contract / Agreement from the Client / Owner shall be submitted (online) in support of Clause 3.3.2 above.

3.3.3 FINANCIAL ELIGIBILITY CRITERIA:

(a) The Minimum Average Annual Turnover (MAAT) of the bidder in the last three financial years (i.e. FY 2013-2014, 2014-2015 and 2015-2016) should be INR 4.3 Cr. This must be the individual Company's turnover and not that of any group of Companies. A summarized sheet of average turnover certified by registered CA should be compulsorily enclosed along with corresponding annual accounts.

OR

Net worth equal to or greater than the value calculated at rate of Rs. 3.25 Cr. "Net Worth" of the Bidder shall be calculated as per Company Act 2013.

(b) 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.

A scanned copy of certificate of incorporation shall be furnished in the bid (through online mode)

(d) The Bidder will provide a copy each of audited annual report of previous three financial years for ascertaining their turnover and Net Worth along with Bank Statements for the purpose of verification.

(e) The Net Worth of the Bidder as on the last day of the preceding financial year 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 the preceding financial year 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 preceding financial year shall not be less than total paid-up share capital.

(f) In case the bidder is not able to furnish its audited financial statements on standalone entity basis, the unaudited unconsolidated financial statements of the bidder can be considered acceptable provided the bidder furnishes the following further documents for substantiation of its qualification:

(g) Copies of the unaudited unconsolidated financial statements of the bidder along with copies of the audited consolidated financial statements of the Holding Company.

(h) A Certificate from the Director of the Holding Company, stating that the unaudited unconsolidated financial statements form part of the Consolidated Annual Report of the company.

In case where audited results for the last preceding financial year are not available, certification of financial statements from a practicing Chartered Accountant shall also be considered acceptable, provided the bidder provides the detailed Financial Statements certified by the Management of the company.

NOTES:

- Paid up share capital will include
 - o Paid up equity share capital
 - o Fully, compulsorily and mandatorily convertible preferential shares
 - o 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.

3.3.4 INCORPORATION OF A PROJECT COMPANY

3.3.4.1 In case the Bidder wishes to incorporate a Project Company, in such a case Bidder if selected as a Successful Bidder can incorporate a Project Company. Bidder shall be responsible to get all clearance required/ obtained in the name of the Bidding Company transferred in the name of the Project Company.

3.3.4.2 The aggregate equity share holding of the Successful Bidder in the issued and paid up equity share capital of the Project Company shall not be less than fifty-one percent (51%) up to a period of Five (5) years from the date of commissioning of the entire Sanctioned Capacity of the Project Developer.

3.3.4.3 In case the bidder is a foreign company/entity and is bidding independently or as a partner of JV / Consortium, the bidder needs to establish a subsidiary at India as per applicable Rules of Government of India in the event of Issuance of LOA. The said process shall be completed maximum within 60 days from the date of issuance of LOA.

3.3.5 JOINT VENTURE CRITERIA

JV is allowed up to maximum of three firms as partners only. In case a bid is submitted by a Joint Venture (JV), they must meet the following requirements:

- i) The lead Partner shall meet, not less than 50% of the Financial eligibility criteria as per clause 3.3.3.
- ii) All the partners of the JV shall collectively meet 100% of Technical Experience criteria as per clause 3.3.2.

iii) The net worth of each Partner of JV should be positive.

iv) However, all the partners shall jointly meet the 100% financial eligibility criteria as per clause 3.3.3.

- Note:
- (i) A Joint Venture (JV), if incorporated as a Company, is required to submit Bid Security in the name of Joint Venture only. In case of Consortium or a JV has not formed a Registered Company, the Bid Security shall be submitted in the name of the Lead Partner.
 - (ii) JV is also required to submit form of Power of Attorney (as per Appendix) and Form of undertaking by the JV partners (As per Appendix).
 - (iii) JV is also required to declare scope of work to be executed by each partner of JV.

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 RFS document.

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 scanned and uploaded 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. 3.3.2 and 3.3.3. to the satisfaction of RSCL. Bidder shall also furnish unconsolidated/ consolidated audited annual accounts in support of meeting financial requirement, which shall consist of unabridged balance sheet, profit and loss account, profit appropriation account, auditors report, etc., as the case may be of Bidding Company or Financially Evaluated Entity for any of the last three (3) financial years immediately preceding the Bid Deadline which are used by the bidder for the purpose of calculation of Annual Turnover or of last Financial Year in case of Net Worth.

3.4.4 In case the annual accounts for the latest financial year are not audited and therefore the bidder cannot make it available, the applicant shall give certificate to this effect from the Statutory Auditor and Authorized signatory along with provisional Annual Account signed by directors of the company and certificate by Chartered Accountant. In such a case, the Applicant shall provide the Audited Annual Reports for 3 (Three) years preceding the year; or from the date of incorporation if less than 3 years; for which the Audited Annual Report is not being provided.

Offline submission of documents:

In addition to the above, the bidders are required to submit the following documents physically offline also in a Sealed Envelope, failing which the technical bids will not be opened.

1. Covering letter as per format given in tender document.
2. Original copy of the Bid Bond in the form of a Bank Guarantee.
3. Original Power-of-Attorney supplemented with Board resolutions for RESCO only
4. DD / Bankers Cheque for an amount as per clause no 3.8.1.1. (A), drawn in favour of Raipur Smart City Limited, Raipur, payable at Raipur against payment of Tender Processing Fees
5. Original copy of the Consortium Agreement, if any for RESCO only
6. The Pass-Phrase to decrypt the relevant Bid-Part in a sealed envelope before the start date and time of the Tender Opening Event (TOE).

The envelope shall bear {the name of State(s) and Capacity}, the RFS No. and the words 'DO NOT OPEN BEFORE' (due date & time).

Note: The Bidder should also upload the scanned copies of all the above mentioned original documents as Bid-Annexures during Online Bid-Submission.

3.5 BID SUBMITTED BY A BIDDING COMPANY

The Bidding Company should designate one person to represent the Bidding Company in its dealings with RSCL. 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 RSCL 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, also soft copy by e-mail to reach RSCL 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 RSCL.
- 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 RSCL is not under any obligation to entertain/ respond to suggestions made or to incorporate modifications sought for.

3.7 AMENDMENTS TO RFS BY RSCL

- 3.7.1 At any time prior to the deadline for submission of Bids, RSCL 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 RSCL website www.RSCL.co.in / ETS Portal of TCIL (<https://eproc.cgstate.gov.in>) 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 RSCL 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 as the date notified by the RSCL for the purpose.
- 3.7.5 All the notices related to this Bid which are required to be publicized shall be uploaded on e-procurement portal of GoC (<https://eproc.cgstate.gov.in>).

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 AND ONLINE BOTH)

- i. Covering Letter as per prescribed Format - 1.
- ii. Bid processing fee @ INR 20,000/- inclusive of taxes and duties in the manner as illustrated below:
- iii. Checklist for Bank Guarantee submission requirements as prescribed in Format - 5.
- iv. Original power of attorney issued by the Bidding Company in favour of the authorized person signing the Bid, in the form attached hereto as Format - 6 or standard power of attorney in favour of authorized person signing the Bid. (Power of Attorney must be supplemented by Board Resolution to above effect for the company incorporated under Company Act 1956 or Company Act 2013). However, Employer may accept general Power of Attorney executed in favour of Authorised signatory of the Bidder, if it shall conclusively establish that the signatory has been authorized by the Board of Directors to execute all documents on behalf of the Bidding Company.

- v. Original copy of the Consortium Agreement, If any RESCO only
- vi. The Pass-Phrase to decrypt the relevant Bid-Part in a sealed envelope before the start date and time of the Tender Opening Event (TOE).

The Bidder should also upload the scanned copies of all the above mentioned original documents as Bid-Annexures during Online Bid-Submission.

(B) ENVELOPE- II TECHNO-COMMERCIAL DOCUMENTS (TO BE SUBMITTED ONLINE ONLY)

- i. Covering Letter as per prescribed Format - 1.
- ii. Certificate of Incorporation of Bidding company/Bidding consortium/parent company as applicable.
- iii. General particulars of bidders as per Format - 2.
- iv. Bidder's composition and ownership structure as per prescribed Format-A as Shareholding certificate certified by Director/practicing Chartered Accountant / Company Secretary and Authorised signatory of the company for RESCO only.
- v. Document in support of meeting Eligibility Criteria as per Clause no. 3.3.2 and 3.3.3.
- vi. Details for meeting Financial Eligibility Criteria as per Clause no. 3.3.3 for RESCO only.
- vii. Undertakings from the Financially Evaluated Entity or its Parent Company / Ultimate Parent Company as per Format - 9, if applicable.
- viii. Format - 8, if applicable, supported by Board Resolution of the Parent Company / Ultimate Parent Company of the Bidding Company duly certified by the Company Secretary or Authorized signatory to provide the Performance Bank Guarantee (PBG) in the event of failure of the Bidding Company to do so.
- ix. Signed and stamped Copy of RFS Documents (First and Last Pages including Covering Pages of each Parts) including amendments & clarifications (on each page) by Authorised signatory.

N.B: Covering letter shall be submitted online and offline both.

(C) ENVELOPE III- PRICE BID(S) (To be submitted online only)

The Bidder shall inter-alia take into account the following while preparing and submitting the Price Bid duly signed by an authorized signatory.

- i.) The Bidder shall submit sealed Price Bid separately in the Annexure I. Envelope shall be superscribed as "Price Bid for ___ KWp capacity. Price Bids shall be put in Envelope-III.
- ii.) Only online price bids shall be considered.

3.9 BID DUE DATE

The Bidder should submit the Bids as per date mentioned in NIT/detail given in E procurement site <https://eproc.cgstate.gov.in>. or to reach the address indicated below by as per Bid information sheet.

“Managing Director,
Raipur Smart City Limited,
Ground Floor, Outdoor Stadium,
Opp Budha Taalab, Raipur 492 001
Phone 0771 - 0771-2227395 email ceo.rscl@gmail.com

3.10 VALIDITY OF BID

3.10.1 The bid and the Price Schedule included shall remain valid for a period of 6 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, RSCL shall forfeit the Bid Bond furnished by him. Confirmation regarding the Bid offer validity shall be clearly mentioned in the covering letter.

3.10.2 In exceptional circumstances when letter of allocation is not issued, RSCL 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

3.11.1.1 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.A above. It should be duly sealed and signed.

3.11.1.2 Outermost envelope should be super scribed as “Offline Documents for Implementation of 2155 kW Grid connected Roof Top Solar PV System Scheme in the City of Raipur, C.G. of India” - _____ Envelope - I (Covering Envelope) along with the “BID DUE DATE”.

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 RSCL Office by the Bid Deadline. Documents submitted by telex/telegram/fax/e-mail shall not be considered under any circumstances. RSCL 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. RSCL 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 digitally sign all pages of the Bid. However, any published document submitted with the Bid shall be signed by the authorized signatory at least on the first and last page of such document Bidders shall submit the Bid in original, duly signed by the authorized signatory of the Bidder. No change or supplemental information to a Bid will be accepted after the Bid Deadline, unless the same is requested for by RSCL.
- 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, RSCL will assume no responsibility for the Bid's misplacement or premature opening.
- 3.11.5 The envelope shall be sealed properly & shall indicate the Name & address of the Bidder. The Bid must be complete in all technical and commercial respect and should contain requisite certificates, drawings, informative literature etc. as required in the Bid document. Each page of the Bid document should be signed & stamped. Bids with any type of change or modification in any of the terms/ conditions of this document shall be rejected. If necessary, additional papers may be attached by the Bidder to furnish/ submit the required information. Any term / condition proposed by the Bidder in his bid which is not in accordance with the terms and conditions of the RFS document or any financial conditions, payment terms, rebates etc. mentioned in Price Bid shall be considered as a conditional Bid and will make the Bid invalid.

3.12 COST OF BIDDING

- 3.12.1 The bidder shall bear all the costs associated with the preparation and submission of his offer, and the company will in no case 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 RSCL may elect to modify / withdraw the invitation of Bid.

3.13 PERFORMANCE SECURITY/PERFORMANCE BANK GUARANTEE (PBG)

3.13.1 Provision for performance BG

Within 30 days from the date of issuance of Allocation letter, Successful Bidder shall furnish the Performance Security for the allocated capacity only.

The formula applicable to calculate the PBG amount will be:

PBG amount = (Rs. 1875/-) X Allocated Capacity in KWp.

- 3.13.2 Further, any delay beyond 30 days shall attract interest @ 1.25 % per month on the total amount, calculated on day to day basis. RSCL at its sole discretion may cancel the allocated capacity and forfeit 100% of Bid bond, in case Performance security is not submitted within

60 days from issuance of Allocation Letter as per Clause 3.13.3(c). However, total project completion period shall remain same. Part PBG shall not be accepted.

3.13.3 The Performance Security shall be denominated in Indian Rupees and shall be in one of the following forms:

- a. a Demand Draft or a Bank Guarantee from the List of Banks having its branch in Raipur as indicated in Annexure - B
- b. be confirmed for payment by the branch of the Bank giving the Bank Guarantee at Raipur.

3.13.4 The PBG shall be forfeited as follows without prejudice to the Bidder being liable for any further consequential loss or damage incurred to RSCL.

- a. If the Successful Bidder is not able to identify the projects and submit Project Sanction Documents to the satisfaction of RSCL, PBG amount, pro-rata to the capacity for which the Successful Bidder is not able to identify the Projects and submit Project Sanction Documents.
- b. If the Successful Bidder is not able to commission the projects to the satisfaction of RSCL, PBG amount, pro-rata to the capacity not commissioned by the Successful Bidder. However, Hundred Percent (100%) PBG amount furnished for the Sanctioned Capacity, if the Successful Bidder fails to Commission the Projects(s) to the satisfaction of RSCL, for the already identified locations, which are notified by RSCL in the RFS or otherwise and for which Allocation Letter/Sanction Letter has been issued.
- c. In all the above cases corresponding unidentified/non-commissioned capacity shall stand cancelled.

3.13.5 The Performance Security shall be valid for a minimum period of 5 years from the date of issuance of Allocation Letter(s) and shall be renewed / extended till the completion of 5 years of O&M period. The Performance security shall be released after 5 years from the date of commissioning with the compliance of entire obligations in the contract.

NB: In case the successful bidder is not able to furnish the PBG for 5 year of validity, then PBG with initial validity period of 2 year may also be accepted by RSCL provided the successful bidder shall renew/extend the PBG, 30 days prior the expiry of the same. If the successful bidder does not extend the PBG, the same shall be forfeited by RSCL.

3.14 OPENING OF BIDS

3.14.1 Offline Document Envelope, of the Bidders shall be opened at 16:00 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.

3.14.2 Name of the Bidder, and capacity offered for Different States and States thereof of India in RESCO, shall be read out to all the Bidders at the time of opening of Envelope-I.

3.15 RIGHT TO WITHDRAW THE RFS AND TO REJECT ANY BID

3.15.1 This RFS may be withdrawn or cancelled by RSCL at any time without assigning any reasons thereof. RSCL 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.

3.15.1.1 RSCL 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 RSCL shall have no liability towards any Bidder and no Bidder shall have any recourse to RSCL with respect to the selection process. RSCL shall evaluate the Bids using the evaluation process specified in RFS, at its sole discretion. RSCL decision in this regard shall be final and binding on the Bidders.

3.15.2 RSCL 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 RSCL will be full and final.

3.16 ZERO DEVIATION

3.16.1 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.

3.17 EXAMINATION OF BID DOCUMENT

3.17.1 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.

3.17.2 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.

3.17.3 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 after final submission of the Bid shall not be accepted by RSCL.

3.17.4 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 : | Successful Bidders(s) selection |

1.1. RESPONSIVENESS CHECK OF TECHNO COMMERCIAL BID

The Techno Commercial Bid submitted by Bidders shall be scrutinized to establish responsiveness to the requirements laid down in the RFS subject to Clause 3.3.1, Clause 3.3.2, and Clause 3.3.3 of Part - II. Any of the following may cause the Bid to be considered "Non-responsive", at the sole discretion of RSCL:

- 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 submission Deadline;
- g. Bid having Conflict of Interest;
- h. More than one Member of a Bidding Company using the credentials of the same Parent Company /Affiliate;
- i. Bidder delaying in submission of additional information or clarifications sought by RSCL 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 RSCL will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties 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. 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. 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

- 1.3.1 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.
- 1.3.2 RSCL at its own discretion, has the right to reject any or all the Bids without assigning any reason whatsoever, at its sole discretion

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 RSCL to the Bidders through RSCL 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 RSCL.

1.5 SUCCESSFUL BIDDER(S) SELECTION

- 1.5.1 The Letter Acceptance (LOA) shall be issued to such Successful Bidders selected as per the provisions of this Clause 1.4
- 1.5.2 Successful Bidder shall acknowledge the LOA and return duplicate copy with signature of the authorized signatory of the Successful Bidder to RSCL within Thirty (15) days of issue of LOA.
- 1.5.3 If the Successful Bidder, to whom the LOA has been issued, does not fulfill any of the conditions specified in Bid document, then RSCL reserves the right to annul/cancel the award of the Letter of Allocation of such Successful Bidder.
- 1.5.4 There shall be no negotiation on the quoted price/ levellized tariff between RSCL and the Bidder during the process of evaluation.

1.6 INCREASE/DECREASE OF BIDDER ALLOCATED CAPACITY

- 1.6.1 RSCL reserves the right to increase/decrease the Bidder(s) Allocated Capacity up to fifty percent (50%) at the sole discretion of RSCL.
- 1.6.2 In case capacity is enhanced by RSCL as per Clause 1.6.1 above, Successful bidder shall submit the equivalent amount of PBG to RSCL within 30 days from the date of issuance of Sanction letter, failing which sanctioned capacity shall stands cancelled.

2. NOTIFICATION TO SUCCESSFUL BIDDERS

The name of Successful Bidders shall be notified indicating the capacity and the offered price on GoC website <https://eproc.cgstate.gov.in> and also shall be notified individually through Letter of Acceptance (LOA).

3. PROJECT ALLOCATION AND SANCTION

- 3.1 The identification of the projects (roof tops) at the time of bidding is not mandatory as the list of identified buildings indicating available area and proposed capacity are enclosed along with the RFS document. The Bidders, however, in their own interest are advised to make a preliminary survey of availability of roof tops for which they intend to Bid and as prescribed in the RFS, as well as issue of Grid connectivity as non-availability of roof tops and non-completion of other formalities after allocation of project will result in forfeiture of Bid Bond/PBG amount submitted by them.
- 3.2 The Successful Bidders selected as described in Clause 1.5 above shall be issued Letter of Acceptance (LOA) indicating the allocated capacity & Project Cost etc.
- 3.3 The bidders, who have been notified as Successful Bidders, shall be given 09 months from the date of issuance of Letter of Allocation for execution of the capacity. The time for submission of project sanction documents by the bidder to RSCL will be maximum 03 (Six) months from the date of issuance of allocation letter which can be extended depending upon the merit of the case. Failure of non-compliance of conditions stipulated above shall lead to forfeiture of PBG for that State in proportion to the capacity allocated in the RSCL identified location.
- 3.4 If after 09 months, the successful bidder could not execute the rooftop(s) capacity up to the allocated capacity and submit Project sanction documents, in such case PBG for unexecuted allocated capacity shall be forfeited and the allocated capacity gets cancelled and bidder including its Affiliates / Group Companies / Parent / Ultimate Parent Company may be debarred to participate in RSCL's future tenders for a period as decided by the competent authority of RSCL.
- 3.5 Successful bidders shall share the time and date stamping photographs of the roofs and location details (Address) with RSCL before entering into any legal agreement with the Owner. This has to ensure that the location identified by the Successful Bidder / Developer is strictly complying with the list provided along with the RFS document.
- 3.6 For location of identified buildings, RSCL or state nodal agency (SNA) or respective Ministry under Government of Chattisgarh may extend help. However the entire responsibility of locating the buildings lies with the Bidder. For facilitating bidders, a list of Government Buildings/Institutions indicating location/address/tentative roof top size / approximate capacity potential etc. compiled by MNRE is enclosed at Annexure-II. However, bidders are required to visit the buildings to ascertain real potential of capacity to be installed. RSCL shall not bear any responsibility in this regard.
- 3.7 Onus of locating the buildings/rooftops and completing the other documentation like finalizing the Project report and entering into agreements with the buildings/rooftops owners lies with the Successful Bidder / Developer within the above-mentioned time frame even for the buildings/rooftops identified by RSCL for preferential installation.

3.8 After submission of Project Sanction Documents by the Successful Bidder/ Project Developer and accepted by RSCL, RSCL will issue the Sanction Letter(s) for the Project (s). The Bidder shall complete the design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of each project within given timeline from the date of issue of letter of allocation.

3.8.1 Registration in CPM (Centralized Project Monitoring) for submission of project sanction documents:

RSCL will register the successful bidders at the CPM software as per the details submitted by the bidders. After the registration, a unique login id and password will be generated for each of the successful bidders / developers which will be shared with them through their authorised email id.

The successful bidders / developers shall submit the project sanction documents and commissioning document to RSCL through CPM for release of sanction letter.

3.9 If the Bidder fails to commission the sanctioned project within specified time i.e. 09 months from the date of LOA; Maximum 6 months extension shall be given prior to RSCL approval. However, further period of 03 months shall be allowed to Bidder for completion of entire unexecuted allocated capacity and penalty/LD on per day basis calculated for the Performance Security on a 3 months period would be levied. After 3 months (i.e. total 18 months from the date of issuance of LOA), the project will get cancelled and the total PBG would be forfeited.

In case, due to delay, PBG submitted by the bidder(s) is forfeited in full/part, bidder has to resubmit the PBG of requisite amount and validity as per the RFS.

4. INCENTIVE/VIABILITY GAP FUNDING (VGF)

4.1 RSCL/Building owner is not liable for any incentive/VGF. It will be responsibility of the bidder to check for availability of any incentive or Viability Gap Funding as per MNRE/SECI guideline. If require, RSCL/Building owner may help to Bidder for getting Incentive/VGF from Government body.

5. OTHER CONDITIONS

5.1 Bidder or owner of the building has to obtain all the necessary approvals/Consents/Clearances required for Erection, Testing, Commissioning and O&M of the project including Grid connectivity. RSCL shall not have any responsibility in this regard.

5.2 BID BOND AND PROCESSING FEE SUBMISSION:

Bid bond shall be submitted for the offered capacity in a separate envelop (along with processing fee) super scribed with name of the state & other details.

5.3 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 of Govt of India by the bidder. RSCL in no case will be responsible for providing any tax exemptions to the bidder.

5.4 ELIGIBILITY OF STANDALONE SYSTEM

5.4.1 Standalone system is not allowed under this scheme. The system should be grid-interactive.

5.5 REQUIREMENT OF APPROVALS ON MAKES OF THE COMPONENTS:

5.5.1 The modules should be manufactured in India only. Rest of the components can be procured from any source. However, these items should meet the Technical specification and standards mentioned in RFS.

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

5.6.1 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 authorised by CSPDCL. Then the period will be excluded in calculation of CUF.

TIME OF COMPLETION OF SANCTIONED CAPACITY

5.7 The Bidder shall complete the roofs identification, submission of project sanction documents as per the requirement of RSCL Engineer-in-Charge design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of sanctioned project(s) within 12 months from the date of issue of allocation letter(s). If project got delayed, extension will be given for 6 months prior approval of RSCL. However, further period of 03 (Six) months shall be allowed to Bidder for completion of entire unexecuted allocated capacity and penalty/LD on per day basis calculated for the Performance Security on a 6 months period would be levied. After 3 months (i.e. total 15 months from the date of issuance of LOA), the project will get cancelled and the total PBG would be forfeited

5.7.1 The period of construction given in Time Schedule includes the time required for mobilization as well as testing, rectifications if any, retesting and completion in all respects to the entire satisfaction of the Engineer-in-Charge.

5.7.2 A joint programme of execution of the Work will be prepared by the Engineer-in-Charge or its representative nominated for the purpose and Successful bidders based on priority requirement of this project. This programme will take into account the time of completion mentioned in clause above and the time allowed for the priority Works by the Engineer-in-Charge.

5.7.3 Monthly/Weekly implementation programme will be drawn up by the Engineer-in-Charge jointly with the Successful bidder, based on availability of Work fronts. Successful bidder shall scrupulously adhere to these targets /programmes by deploying adequate personnel, tools and tackles and he shall also supply himself all materials of his scope of supply in good time

to achieve the targets/programmes. In all matters concerning the extent of targets set out in the weekly and monthly programmes and the degree of achievements, the decision of the Engineer-in-Charge will be final and binding.

6 USER ID FOR UPDATING THE PROJECT PROGRESS ON BI- WEEKLY BASIS

Successful bidder's authorised representative, in whose name PoA has been executed and submitted along with the bid, shall be provided Password and User id for updating the project progress on biweekly basis in the sanction letter/ Allocation letter for the City. Successful bidder should update the info as per the requirement of the software tool. Non updating of the progress shall be considered as no progress and shall attract punitive actions as per the relevant provision of the Contract. However, the decision of Engineer-in -charge shall be final in this regard.

7 INSPECTION AND AUDIT BY THE GOVERNMENT

7.1 The Successful bidder shall permit RSCL 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 RSCL, if so required by the RSCL any time.

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 COMMISSINONG / 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 RSCL format.
- b. Project completion and satisfaction certificate from roof top owner's.

8.1.2 FINAL DECISION AND FINAL CERTIFICATE:

8.1.2.1 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 RSCL 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/RSCL.

8.2 DEDUCTIONS FROM THE CONTRACT PRICE:

- 8.2.1 All costs, damages or expenses which RSCL may have paid or incurred, which under the provisions of the Contract, the Successful bidder is liable/will be liable, will be claimed by RSCL. All such claims shall be billed by RSCL to the Contractor within 15 (fifteen) days of the receipt of the payment request and if not paid by the Successful bidder within the said period, RSCL may, then, deduct the amount from any moneys due i.e., Performance Security or becoming due to the contractor or Successful bidder under the contract or may be recovered by actions of law or otherwise, if the Successful bidder fails to satisfy RSCL of such claims.

8.3 CORRUPT OR FRAUDULENT PRACTICES

- RSCL requires that Successful Bidders / Developers should follow the highest standard of ethics during the execution of contract. In pursuance of this policy, RSCL:
- 8.3.1 defines, for the purposes of this provision, the terms set forth as follows :
- 8.3.2 “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
- 8.3.3 “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 RSCL/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 RSCL of the benefits of free and open competition;
- 8.3.4 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 / RSCL schemes.

9 DEBARRED FROM PARTICIPATING IN RSCL’S ROOF TOP TENDER

- 9.1 RSCL 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 RSCL’s any future tender for a period as decided by the competent authority of RSCL.
- 9.2 The Successful bidder must ensure that the ROOF TOP SOLAR PV SCHEME Incentive is available for newly commissioned projects i.e. for the projects whose construction/despatch 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 RSCL’s 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 The Scope of work for the bidder include feasibility of installation in identified Government buildings/leasing rooftop of buildings for 25 years, Obtaining No Objection Certificate (NOC)" from Distribution Company (CSPDCL) for grid connectivity, execution of PPA (in the prescribed format attached herewith this RFS document), complete 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 25 years for RESCO after commissioning of the projects as per RSCL's acceptance.

2 PROJECT COST/ LEVELLIZED TARIFF

2.1 The Project cost/ (Levellized Tariff of 25 years) 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 (for a period 25 years for RESCO), 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/ Levellized tariff quoted for RESCO is on lump sum turnkey basis and the bidder is responsible for the total Scope of work described at Clause 1.1 above.

2.1.2 The Project cost/Levellized tariff shall remain firm and fixed and shall be binding on the Successful Bidder till completion of work 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/ Levellized tariff 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 RSCL. However, statutory variation of taxes and duties may be paid by the 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 25 years for RESCO project.

2.1.5 The Project cost/Levellized tariff shall be specified in sanction letter based on Successful Bidder's quote for each project. The project cost/Levellized tariff shall be in accordance with all terms, conditions, specifications and other conditions of the Contract as accepted by the RSCL and incorporated into the sanction letter.

2.1.6 The Bidder shall complete the Price Bid in Annexure I for different States of India furnished in the RFS Documents.

2.2 RSCL Service charge

Bidder has to pay 5% of Project cost (Rs. 70000 per KW) Service charges to RSCL. RSCL service charges are charged for site visits, inspection, liaison, monitoring etc. Taxes and duties shall be paid extra. RSCL service charges are non-refundable and for each project the service charges have to be paid at the time of submission of Project Sanction Documents. In the absence of RSCL's service charges, the project sanction documents shall not be acceptable to RSCL.

3 INSURANCE

3.1 The Bidder shall be responsible and take an Insurance Policy for transit-cum-storage-cum-erection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materials at site, erection, testing and commissioning. The bidder shall also take appropriate insurance during O&M period, if required.

3.1.1 The Bidder 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. Before commencement of the work, the Bidder 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.

4 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 warrantee covering the rectification of any and all defects in the design of equipment, materials and workmanship including spare parts for a period of 25 years for RESCO projects. The successful bidder has to transfer all the Guarantees/ Warrantees of the different components to the Owner of the project. The responsibility of operation of Warrantee 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 RSCL will not be responsible in any way for any claims whatsoever on account of the above.

5 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/ Indian Standards 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.
- 6 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 25 years from the date of commissioning of the plant.
- 6.2 For system sizes above 25 kWp, below mentioned guidelines, shall be followed. In addition, O & M practices shall be strictly followed as per Annexure D.
- 6.2.1 O&M of Solar Power Plant shall be compliant with grid requirements to achieve committed energy generation.
- 6.2.2 Deputation of qualified and experienced engineer/ technicians till the O&M period at project site.
- 6.2.3 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. 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.
- 6.2.4 Periodic checks of the Modules, PCUs and BoS shall be carried out as a part of routine preventive and breakdown maintenance.
- 6.2.5 Immediate replacement of defective Modules, Invertors/PCUs and other equipment as and when required.
- 6.2.5.1 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.
- 6.2.5.2 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.
- 6.2.5.3 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.

- 6.2.5.4 Co-ordination with Owner / CSPDCL / 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 daily basis. Furnishing generation data (JMR) each month to RSCL positively by 1st week of every month for the previous month.
- 6.2.5.5 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.
- 6.2.5.6 For any issues related to operation & maintenance, a toll-free number shall be made available to the rooftop owner/ plant owner to resolve within 72 hours. If not attended within such stipulated time, a complaint may be raised to RSCL, pursuant to which, a penalty of Rs. 1,000/- for full month or more shall be imposed for a system capacity above 10 kWp. Repetition of such instances for more than 2 times a year is not allowed and may lead to penalty as decided by RSCL. Further, If the outage of the plant is more than 30 days continuously, then the 50% PBG amount shall be encashed by RSCL and If the outage is exceeding more than 60 days than complete PBG amount shall be encashed by RSCL. This will be applicable for entire period of contract of O&M as per the Scope of the RFS.
- 6.2.5.7 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. RSCL 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.

7 METERING AND GRID CONNECTIVITY

Metering and grid connectivity of the roof top solar PV system under this scheme would be the responsibility of the Bidder in accordance with the prevailing guidelines of the concerned CSPDCL and / or CEA (if available by the time of implementation). RSCL/ SNA could facilitate connectivity; however, the entire responsibility lies with bidder only.

8 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. Minimum CUF of 15% should be maintained for a period of 5 years for fulfilling one of the conditions for release of PBG. The bidder should send the periodic plant output details to RSCL for ensuring the CUF. The PR will be measured at Inverter output level during peak radiation conditions.

8.1 PROGRESS REPORT

The bidder shall submit the progress report monthly to RSCL in Prescribed Performa. RSCL will have the right to depute its representatives to ascertain the progress of contract at the premises of works of the bidder.

8.1.1 Submission of Project Completion Report (PCR)

The bidder shall submit the Project Completion Report (both in editable soft copy and signed hard copy) after commissioning of the project as per the Scope of RFS to RSCL as per the Format given in Annexure L. Non-submission of the report shall be considered as "Breach of Contract" and shall attract punitive actions as per the relevant provisions of the Contract. However, the decision of Engineer - in - charge shall be final in this regard.

8.1.2 Submission of O & M Report (OMR)

The bidder shall submit the Monthly O&M Report mandatorily to RSCL as per the Format enclosed at Annexure K. Non-submission of the report shall be considered as "Breach of Contract" and shall attract punitive actions as per the relevant provisions of the Contract. However, the decision of Engineer - in - charge shall be final in this regard.

9 PROJECT INSPECTION

All Projects under RESCO, the project progress will be monitored by RSCL 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 RSCL or any agency/ experts designated / authorised by RSCL from time to time. RSCL 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 at any time during commissioning or after the completion of the project(s) as follows:

Project Capacity above 1 kWp to 100 kWp

Inspection shall be carried out by Inspecting officer(s) nominated by RSCL, RSCL officials, or from the officials of TERI, NPC or any other agencies to be notified by RSCL from time to time.

Project Capacity from 101 kWp to 500 kWp

Inspection shall be carried out by Inspecting officer(s) nominated by RSCL, RSCL officials, or from the officials of following listed agencies/bodies

1. Govt./NABL accredited agencies/Labs,
2. NISE,
3. CPRI,
4. DNV Climate Change Services AS (DNV)
5. Bureau Veritas Certification Holding SAS (BVCH)
6. Any other agencies/bodies to be notified by RSCL on time to time.

10 APPLICABLE LAW

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

11 SETTLEMENT OF DISPUTE

11.1 If any dispute of any kind whatsoever arises between RSCL and Successful bidder in connection with or arising out of the contract including without prejudice to the generality of the foregoing, any question regarding the existence, validity or termination, the parties shall seek to resolve any such dispute or difference by mutual consent.

11.2 If the parties fail to resolve, such a dispute or difference by mutual consent, within 45 days of its arising, then the dispute shall be referred by either party by giving notice to the other party in writing of its intention to refer to arbitration as hereafter provided regarding matter under dispute. No arbitration proceedings will commence unless such notice is given. Any dispute in respect of which a notice of intention to commence arbitration has been given in accordance with Sub Clause 12.1, shall be finally settled by arbitration.

12 IN CASE THE CONTRACTOR IS A PUBLIC-SECTOR ENTERPRISE OR A GOVERNMENT DEPARTMENT.

12.1 In case the Contractor is a Public-Sector Enterprise or a Government Department, the dispute shall be referred for resolution in Permanent Machinery for Arbitration (PMA) of the Department of Public Enterprise, Government of India. Such dispute or difference shall be referred by either party for Arbitration to the sole Arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The award of the Arbitrator shall be binding upon the parties to the dispute, provided, however, any party aggrieved by such award may make a further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law & Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary / Additional Secretary, when so authorized by the Law Secretary, whose decision shall bind the Parties finally and conclusive. The Parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.

12.2 IN ALL OTHER CASES

12.2.1 In all other cases, any dispute submitted by a party to arbitration shall be heard by an arbitration panel composed of three arbitrators, in accordance with the provisions set forth below.

12.2.1.1 RSCL 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 Thirty (30) days

after the later 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 which shall be the President, Institution of Engineers.

12.2.1.2 If one party fails to appoint its arbitrator within thirty (30) 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.

12.2.1.3 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 12.4.1.1 and a substitute shall be appointed in the same manner as the original arbitrator.

12.2.1.4 Arbitration proceedings shall be conducted with The Arbitration and Conciliation Act, 1996. The venue or arbitration shall be Raipur.

12.2.1.5 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.

12.2.1.6 The arbitrator(s) shall give reasoned award.

12.2.2 Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the agreement unless they otherwise agree.

12.2.3 Cost of arbitration shall be equally shared between the Successful bidder or Contractor and RSCL.

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:

- (a) war, hostilities or warlike operations (whether war be declared or not), invasion, act of foreign enemy and civil war,
- (b) rebellion, revolution, insurrection, mutiny, usurpation of government, conspiracy, riot and civil commotion,
- (c) 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 RSCL 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, RSCL 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 RSCL in writing promptly, not later than 14 days from the date such situation arises. The contractor shall notify RSCL not later than 3 days of cessation of force majeure conditions. After examining the cases, RSCL shall decide and grant suitable additional time for the completion of the work, if required.

14 LANGUAGE

14.1 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 RSCL 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 RSCL 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 RSCL 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 RSCL 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 RSCL after obtaining proper legal advice, the cost of which will be chargeable to the Successful bidder concerned.

15.5 SUCCESSORS AND ASSIGNEES:

In case RSCL 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.

15.6 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.

15.7 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.

15.8 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 RSCL & Successful bidder hereto, any rights and / or remedies herein.

16 CORRESPONDENCE

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

Name	Contact Number	Email id
Managing Director	0771-2227395	ceo.rscl@gmail.com

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

PART – V

SPECIAL CONDITIONS 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. “Affiliate” shall mean a company that either directly or indirectly
 - a. controls or
 - b. is controlled by or
 - c. is under common control with

a Bidding Company and “control” means ownership by one company of at least twenty six percent (26%) of the voting rights of the other company.
- 1.2. “Benchmark Cost” shall mean per kWp cost defined by MNRE for solar power plants without battery. For the purpose of this RFS, the benchmark cost will be considered as INR 75,000/- per kWp.
- 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. “Bid Bond” 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.
- 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 Managing Director (MD) of RaipurSmart City Limited 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.
- CUF = Actual Plant Output in kWh over the year / (Installed Plant Capacity in kW x 365 x 24).
Monthly CUF: Monthly Plant output in kWh / (installed plant capacity in kW x number of days in a month x 24).
- 1.15. "Eligibility Criteria" shall mean the Eligibility Criteria as set forth in Clause 3.3 of this RFS.
- 1.16. "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.
- 1.17. "IEC" shall mean specifications of International Electro-Technical Commission.
- 1.18. "kWp" shall mean Kilo-Watt Peak.
- 1.19. "kWh" shall mean Kilo-Watt-hour.
- 1.20. "MNRE" shall mean Ministry of New and Renewable Energy, Government of India.
- 1.21. "Model" shall mean RESCO model which includes energy sale which shall not exceed beyond the levelized ceiling tariff as referred in RFS.
- 1.22. "Net-worth" shall have same meaning as defined in Company Act 2013 and Amendment, if any.
- 1.23. "O&M" shall mean Operation & Maintenance of 25 years for RESCO model of Rooftop Solar PV system.
- 1.24. "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.
- 1.25. "Levelized Tariff" shall mean the tariff offered by the Bidder for 25 years for the Scope of work as per RFS document subject to the maximum levelized tariff of 25 years of as per RFS.
- 1.29. "Project capacity" means Capacity in kWp allocated to the Bidder for different states of India consisting of single or multiple roof tops. The project capacity specified is on "DC" output Side only.
- 1.30. "Performance Ratio" (PR) means
- "Performance Ratio" (PR) means the ratio of plant output versus installed plant capacity at any instance with respect to the radiation measured.

$$\begin{array}{rcc}
 & \text{Measured output in kW} & \text{1000 W/m}^2 \\
 \text{PR} & & \\
 = & \text{Installed Plant capacity in kW} \times & \text{Measured radiation intensity in W/m}^2
 \end{array}$$

- 1.31. "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;
- 1.32. "Project Company" shall mean Company incorporated by the bidder as per Indian Laws in accordance with Clause no 3.3.1 of Part - II.
- 1.33. "Project Sanction Documents" shall mean the documents as specified in Annexure.
- 1.34. "Price Bid" shall mean Envelope II of the Bid, containing the Bidder's quoted Price as per the Annexure of this RFS;
- 1.35. "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;
- 1.36. "RFS" shall mean Request for Selection (RFS) / Bid document / Tender document
- 1.37. "RESCO" shall mean Renewable Energy Service Companies
- 1.38. "RESCO model" shall mean where the bidders intend to take a rooftop owned by some other entity on mutually agreed terms and conditions including lease agreement from the roof top owner(s) and enters into the PPA with rooftop owner / CSPDCL / others for supply of Solar power for 25 years at a tariff as per RFS from the date of Commissioning of project.
- 1.39. "PPA" shall mean Power Purchase Agreement to be executed between successful bidder / project developer and the rooftop owner. The prescribed format for execution of PPA is attached as Annexure IV to this RFS.
- 1.40. "Rooftop Solar PV" shall mean solar PV array/system installed on the flat /inclined roof of the building / elevated platform on metallic or concrete structure minimum 10 feet above ground level / Ground mounted system (in the places where sufficient shadow free rooftop area is not available.) In such instance up to 40% Solar PV array/system capacity can be accommodated on nearby unutilised land subject to the RSCL's approval.
- 1.41. "RSCL" shall mean Raipur Smart City Limited SPV of Government of Chattisgarh represented by managing Director.
- 1.42. "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.

- 1.43. "Successful Bidder / Contractor / Project Developers" shall mean the Bidder(s) selected by RSCL pursuant to this RFS 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;
- 1.44. "SECI" shall mean Solar Energy Corporation of India Limited, Raipur (A Government of India Enterprise) under MNRE.
- 1.45. "SNA" shall mean State Nodal Agency.
- 1.46. "Tendered Capacity" shall mean the total aggregate capacity ----- KWp under RESCO proposed to be allocated by RSCL to the Successful Bidder through this bidding process as per terms and conditions specified therein.
- 1.47. "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.
- 1.48. "Wp" shall mean Watt Peak

PART – VI

SAMPLE FORMS AND FORMATS

FORMATS FOR SUBMITTING RFS

Covering Letter

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

Ref.No. _____ Date: _____

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

Tel.#:

Fax#:

E-mail address#

To

Managing Director,
Raipur Smart City Limited,
Ground Floor, Indoor Stadium,
Opp Budha Taalab, Raipur 492 001

Sub: Bid for "Implementation of Grid connected Roof Top Solar PV System Scheme as per RFS"

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 / Affiliate/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 Raipur Smart City Limited, as amended. As a token of our acceptance to the RFS Documents, the same have been initialled 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. Bid Capacity

We have bid for the __ KWp. RESCO as per RFS terms and conditions

4. Bid Bond (If Applicable)

We have enclosed a Bid Bond of Rs.....(Insert Amount), in the form of bank guarantee no.....(Insert number of the bank guarantee) dated.....[Insert date of bank guarantee] as per Formatfrom(Insert name of bank providing Bid Bond) and valid up toin terms of Clauseof this RFS. The offered quantum of power by us is __kWp . (Insert total capacity offered).

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 said format(s).

6. Acceptance

We hereby unconditionally and irrevocably agree and accept that the decision made by Raipur Smart City Limited 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.

7. 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.

8. Contact Person

Details of the contact person are furnished as under:

Name :
Designation :
Company :
Address :
Phone Nos. :

Fax Nos. :

E-mail address :

10. We are enclosing herewith the Envelope-I (Covering letter, Processing fee and Bid Bonds etc as per clause 3.8.1.1.A of the RFS) (through Offline) and Envelope-II (Techno-Commercial documents) (through online) and Envelope III (Price Bids) (through online) containing duly signed formats, each one duly sealed separately, in one original as desired by you in the RFS for your consideration as per clause 3.8.1 of the RFS.

It is confirmed that our Bid is consistent with all the requirements of submission as stated in the RFS and subsequent communications from RaipurSmart City Limited. 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.

Dated the _____ day of _____, 20....

Thanking you,

We remain,

Yours faithfully,

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

Format-2

GENERAL PARTICULARS OF THE BIDDER RESCO only

Name of the Company	
Registered Office Address	
E-mail	
Web site	
Authorized Contact Person(s) with name, designation Address and Mobile Phone No., E-mail address/ Fax No. to whom all references shall be made	
Year of Incorporation	
Have the bidder/Company ever been debarred By any Govt. Dept. / Undertaking for undertaking any work.	
Reference of any document information attached by the Bidder other than specified in the RFS.	
Whether the Bidder wishes to form a Project Company for execution of work	Yes/No
Bidding company is listed in India	Yes/No
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	
Whether company is MSME as on the bidding date	Yes/No

(Signature of Authorized Signatory)

With Stamp

Format-A (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)

FORMAT FOR PERFORMANCE BANK GUARANTEE (PBG)

(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 of the capacity of ___ kWp, at

under Roof Top scheme in response to the RFS no..... dated..... issued by RaipurSmart City Limited (hereinafter referred to as RSCL) and RSCL 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 RSCL at [Insert Name of the Place from the address of the RSCL] forthwith on demand in writing from RSCL or any Officer authorised 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]

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..... RSCL shall be entitled to invoke this Guarantee till

The Guarantor Bank hereby agrees and acknowledges that RSCL 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 RSCL, made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to RSCL.

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 RSCL to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against RSCL 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 RSCL 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 RSCL 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 We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if RSCL serves upon us a written claim or demand.

Signature _____

Name _____

Power of Attorney No. _____

For

_____ [Insert Name of the Bank]__

Banker's Stamp and Full Address.

Dated this ____ day of ____, 20__

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.
2. 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 / initialled by executant 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 executant?	
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 favour 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 State___ in response to the RFS No dated issued by Raipur Smart City Limited (RSCL), Raipur 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 RSCL may require us to submit. The aforesaid Attorney is further authorized for making representations to the Raipur Smart City Limited Limited, Raipur and providing information / responses to RSCL, Raipur representing us in all matters before RSCL, Raipur and generally dealing with RSCL, raipur 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 executant 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 executant)

(Name, designation and address of the executant)

.....

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

Notes:

The mode of execution of the power of attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and the same should be under common seal of the executant affixed in accordance with the applicable procedure. Further, the person whose signatures are to be provided on the power of attorney shall be duly authorized by the executant(s) in this regard.

The person authorized under this Power of Attorney, in the case of the Bidding Company / Lead Member being a public company, or a private company which is a subsidiary of a public company, in terms of the Companies Act, 1956, with a paid up share capital of more than Rupees Five crores, should be the Managing Director / whole time director/manager appointed under section 269 of the Companies Act, 1956. In all other cases the person authorized should be a director duly authorized by a board resolution duly passed by the Company.

Also, wherever required, the executant(s) should submit for verification the extract of the chartered documents and documents such as a Board resolution / power of attorney, in favour of the person executing this power of attorney for delegation of power hereunder on behalf of the executant(s).

Format -6

FINANCIAL ELIGIBILITY CRITERIA REQUIREMENT (AS PER CLAUSE 3.3.3, PART-II)

(To be submitted on the letterhead of Bidding Company)

To,

Managing Director,

Raipur Smart City Limited,

Ground Floor, Indoor Stadium,

Opp Budha Taalab, Raipur 492 001

Dear Sir,

Sub: Bid for Implementation of Grid connected Roof Top Solar PV System scheme in response to the RFS No: ---/RSCL/2017-18 dated ---/06/2016

We submit our Bid/Bids for the total capacity of 2155 KWp in RESCO 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 (strike out whichever is not applicable) of Rs.....Crore computed as per instructions provided in Clause 3.3.3 of this RFS based on unconsolidated audited annual accounts (refer Note-1 below) any of the last 3 Years immediately preceding the Bid Deadline.

Name of Financially Evaluated Entity*	Relationship with Bidding Company**	Financial year	Year of Incorporation	Annual Turnover (Rs. Crore)	Net worth as per Clause 3.3.3 (in Rs. Crore)

* 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 and/or Affiliate has been used for meeting Qualification Requirements.

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:

Notes:

Audited consolidated annual accounts of the Bidder may also be used for the purpose of financial criteria provided the Bidder has at least 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.

Format-7

FORMAT FOR CERTIFICATE OF RELATIONSHIP OF PARENT COMPANY OR
AFFILIATE WITH THE BIDDING 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 Affiliate(s) /Parent Company of the Bidding Company as per the definition of Affiliate/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 Affiliate/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 Affiliate of the Bidding Company/ Name of the Parent Company of the Bidding Company	Name of the Company having common control on the Affiliate and 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 practising Company Secretary of the Bidder)

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

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

Name:

Full Address:

Telephone No.:

E-mail address:

Fax/No.:

To,

.....

Dear Sir,

We refer to the RFS No.....dated.....for "Implementation of 2155 kW Grid connected Roof Top 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 event of it being selected as the Successful Bidder".

In view of the above, we hereby undertake to you and confirm that in the event of failure of(Insert name of 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 Authorised Signatory

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

WITNESS

.....

(Signature)

Name.....

Designation.....

.....

(Signature)

Name.....

Designation.....

CONSORTIUM AGREEMENT (RESCO only)

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

THIS Consortium Agreement ("Agreement") executed on this _____ day of _____ 20... between M/s [insert name of Lead Member] _____ a Firm / Company incorporated under the laws of _____ and having its Registered Office at _____ (hereinafter called the "Lead Member", which expression shall include its successors, executors and permitted assigns)

and

M/s _____ a Firm / Company incorporated under the laws of _____ and having its Registered Office at _____ (hereinafter called the "Technical Member", which expression shall include its successors, executors and permitted assigns), which expression shall include its successors, executors and permitted assigns)

WHEREAS, each Member individually shall be referred to as the "Member" and both the Members shall be collectively referred to as the "Members" in this Agreement.

WHEREAS the Raipur Smart City Limited (hereinafter called RSCL), a section-3 Company incorporated under the Company's Act, 2013 has invited response to RFS No. ____ dated ____ for design, manufacture, supply, erection, testing and commissioning including warranty, operation & maintenance of 2155 kW Roof Top Solar PV power system in selected States.

WHEREAS the RFS documents stipulates that the Lead Member may enter into a Technical Consortium Agreement with another Company / Corporate entity to fulfill the Technical Eligibility Criteria as stipulated in the RFS document. The Members of the Bidding Consortium will have to submit a legally enforceable Consortium Agreement in a format enclosed with the RFS document.

NOW THEREFORE, THIS AGREEMENT WITNESSTH AS UNDER:

In consideration of the above premises and agreements all the Members in this Consortium do hereby mutually agree as follows:

1. We, the Members of the Consortium and Members to the Agreement do hereby unequivocally agree that (M/s _____), shall act as the Lead Member as defined in the RFS for self and agent for and on behalf of Technical Member _____.

2. The Lead Member is hereby authorized by the Technical Member of the Consortium to bind the Consortium and receive instructions for and on their behalf.
3. The Lead Member shall be liable and responsible for ensuring the individual and collective commitment of each of the Members of the Consortium in discharging all of their respective obligations. Each Member further undertakes to be individually liable for the performance of its part of the obligations without in any way limiting the scope of collective liability envisaged in this Agreement.
4. Subject to the terms of this Agreement, the Technical member shall be responsible for providing technical knowledge for “Design, Manufacture, Supply, Erection, Testing and Commissioning including Warranty, Operation & Maintenance” to the lead member.
5. In case of any breach of any commitment by any of the Consortium Members, the Lead Member shall be liable for the consequences thereof.
6. This Agreement shall be construed and interpreted in accordance with the Laws of India and courts at Delhi alone shall have the exclusive jurisdiction in all matters relating thereto and arising there under.
7. It is hereby further agreed that in case of being shortlisted, the Members do hereby agree that they shall abide by the terms & conditions of the RFS document.
8. It is further expressly agreed that this Agreement shall be irrevocable and shall form an integral part of the RFS submitted to RSCL and shall remain valid till completion of the job assigned to the Contractor.
9. The Lead Member is authorized and shall be fully responsible for the accuracy and veracity of the representations and information submitted by the Members respectively from time to time in the response to RFS.
10. It is hereby expressly understood between the Members that no Member at any given point of time, may assign or delegate its rights, duties or obligations under this agreement without the explicit permission of RSCL.
11. This Agreement
 - (a) Has been duly executed and delivered on behalf of each Member hereto and constitutes the legal, valid, binding and enforceable obligation of each such Member;
 - (b) Sets forth the entire understanding of the Members hereto with respect to the subject matter hereof; and
 - (c) May not be amended or modified except in writing signed by each of the Members and with prior written consent of RSCL.

IN WITNESS WHEREOF, the Members have, through their authorised representatives, executed these present on the Day, Month and Year first mentioned above.

For M/s-----[Lead Member]

(signature, Name & Designation of the person authorized vide Board Resolution Dated [●])

Witnesses:

1) Signature-----

2) Signature -----

Name:

Name:

Address:

Address:

For M/s-----[Technical Member]

(signature, Name & Designation of the person authorized vide Board Resolution Dated [●])

Witnesses:

DOCUMENTS REQUIRED FOR PROJECT SANCTION

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

1. Agreement between the bidder and the owner of the Project and Building/Roof top (Notarised original agreement on stamp paper of appropriate value should be enclosed).
2. All Agreement shall generally have reference to the RSCL's RFS No. and Letter of Allocation and provisions as per terms and conditions, technical specification and performance parameter in line with the RSCL's RFS Document against which Letter of Allocation has been issued. 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 RSCL officials for the entire plant life, obligation of the roof top owner regarding providing of data to RSCL as per the RFS Document etc.
3. No Objection Certificate from the concerned CSPDCL for grid connectivity or CEIG approval (In case CEIG approval is suffice for grid connectivity). Undertaking of Successful Bidder on stamp Paper for indemnification of RSCL shall be furnished in case approval of CEIG is only furnished for grid connectivity.
(Not mandatory during project identification, however mandatory for project commissioning/ operation).
4. Summary Project Report (2-3 pages only) as per Format at Annexure H.
5. RSCL Service Charges: DD / Bankers cheque for an amount as per clause no 2.2 of Part-IV (GCC), drawn in favour of Raipur Smart City Limited, Raipur, payable at raipur against payment of RSCL Service Charges.

LIST OF BANKS

1. SCHEDULED COMMERCIAL BANKS	2. OTHER PUBLIC SECTOR BANKS
SBI AND ASSOCIATES	1. IDBI Bank Ltd.
1. State Bank of India	3. SCHEDULED PRIVATE BANKS
2. State Bank of Bikaner & Jaipur	1. Federal Bank Ltd.
3. State Bank of Hyderabad	2. Kotak Mahindra Bank Ltd.
4. State Bank of Indore	3. Axis Bank Ltd.
5. State Bank of Mysore	4. ICICI Bank Ltd.
6. State Bank of Patiala	5. HDFC Bank Ltd.
7. State Bank of Travancore	6. Yes Bank Ltd.
NATIONALISED BANKS	7. IDFC Bank Ltd.
1. Allahabad Bank	8. IndusInd Bank
2. Andhra Bank	9. Karur Vysya Bank
3. Bank of India	10. South Indian Bank
4. Bank of Maharashtra	
5. Canara Bank	
6. Central Bank of India	
7. Corporation Bank	
8. Dena Bank	
9. Indian Bank	
10. Indian Overseas Bank	
11. Oriental Bank of Commerce	
12. Punjab National Bank	
13. Punjab & Sind Bank	
14. Syndicate Bank	
15. Union Bank of India	
16. United Bank of India	
17. UCO Bank	
18. Vijaya Bank	
19. Bank of Baroda	

REFERENCE OF CALCULATION OF LEVELLIZED TARIFF

Year of Operation	Tariff (Rs/kWh)	Discount Factor at 11%	Discounted Tariff (Rs/kWh)
(1)	(2)	(3)	4=(2)X(3)
Year 1 w.e.f. date of commercial operation to 31 st March of immediately succeeding financial year		1.000	X1
Year 2 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.901	X2
Year 3 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.812	X3
Year 4 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.731	X4
Year 5 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.659	X5
Year 6 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.593	X6
Year 7 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.535	X7
Year 8 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.482	X8
Year 9 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.434	X9
Year 10 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.391	X10
Year 11 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.352	X11
Year 12 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.317	X12
Year 13 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.286	X13
Year 14 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.258	X14
Year 15 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.232	X15
Year 16 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.209	X16
Year 17 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.188	X17
Year 18 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.170	X18
Year 19 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.153	X19
Year 20 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.138	X20
Year 21 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.124	X21

Year of Operation	Tariff (Rs/kWh)	Discount Factor at 11%	Discounted Tariff (Rs/kWh)
(1)	(2)	(3)	4=(2)X(3)
Year 22 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.112	X22
Year 23 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.101	X23
Year 24 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.091	X24
Year 25 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.082	X25
TOTAL		9.351	X=X1+X2+X3+.....+X25
Levellized Tariff for 25 years(in Rs /kWh)=X/9.351			
Levellized Tariff for 25 years in words			

Note:

- The levellized tariff shall be calculated up to three decimal places. However in case of a tie it may be expanded to break the tie.
- Tariff stream quoted by the bidder shall be levellized with a discounting rate of 11% only.
- Maximum allowable levellized tariff as per clause 2.1.3 of Part - II.
- Proposals not in conformity with above provisions will be rejected.

Date: Signature of the Authorized signatory

Place:Printed Name.....

Business Address: Designation:.....

(Company Stamp).....

OPERATION AND MAINTENANCE GUIDELINES OF GRID CONNECTED PV PLANTS

(RESCO)

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

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

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

1. SOLAR PANELS

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

- ✓ The panels are cleaned at least once every fifteen days.
- ✓ Any bird droppings or spots should be cleaned immediately. \
- ✓ Use water and a soft sponge or cloth for cleaning.
- ✓ Do not use detergent or any abrasive material for panel cleaning.
- ✓ Iso-propyl alcohol may be used to remove oil or grease stains.
- ✓ Do not spray water on the panel if the panel glass is cracked or the back side is perforated.
- ✓ Wipe water from module as soon as possible.
- ✓ Use proper safety belts while cleaning modules at inclined roofs etc.
- ✓ The modules should not be cleaned when they are excessively hot. Early morning is particularly good time for module cleaning.
- ✓ 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.
- ✓ Ensure that the module terminal connections are not exposed while cleaning; this poses a risk of electric shock.
- ✓ Never use panels for any unintended use, e. g. drying clothes, chips etc. Ensure that monkeys or other animals do not damage the panels.

2. CABLES AND CONNECTION BOXES

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

3. INVERTER

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

4. SHUTTING DOWN THE SYSTEM

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

d. 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 > 100 kWp)	Use infrared camera to inspect for hot spots; bypass diode failure	Annual	Technician
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,	Annual	Electrician

Component	Activity	Description	Interval	By
		arcing, short or open circuits, and ground faults.		
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, 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
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

**QUALITY CERTIFICATION, STANDARDS AND TESTING FOR GRID-CONNECTED
ROOFTOP SOLAR PV SYSTEMS/POWER PLANTS**

Quality certification and standards for grid-connected rooftop solar PV systems are essential for the successful mass-scale implementation of this technology. It is also imperative to put in place an efficient and rigorous monitoring mechanism, adherence to these standards. Hence, all components of grid-connected rooftop solar PV system/ plant must conform to the relevant standards and certifications given below:

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
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)
IEC 62116/ UL 1741/ IEEE 1547 (as applicable)	Utility-interconnected Photovoltaic Inverters - Test Procedure of Islanding Prevention Measures
IEC 60255-27	Measuring relays and protection equipment – Part 27: Product safety requirements
IEC 60068-2 / IEC 62093 (as applicable)	Environmental Testing of PV System – Power Conditioners and Inverters
Fuses	
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

	<p>Breakers</p> <p>c) Low-voltage switchgear and Control-gear, Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units</p> <p>d) EN 50521: Connectors for photovoltaic systems – Safety requirements and tests</p>
IEC 60269-6	Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems
Surge Arrestors	
BFC 17-102:2011	Lightening Protection Standard
IEC 60364-5-53/ IS 15086-5 (SPD)	Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment - Isolation, switching and control
IEC 61643-11:2011	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods
Cables	
IEC 60227/IS 694, IEC 60502/IS 1554 (Part 1 & 2)/ IEC69947 (as applicable)	General test and measuring method for PVC (Polyvinyl chloride) insulated cables (for working voltages up to and including 1100 V, and UV resistant for outdoor installation)
BS EN 50618	Electric cables for photovoltaic systems (BT(DE/NOT)258), mainly for DC Cables
Earthing /Lightning	
IEC 62561 Series (Chemical earthing) (as applicable)	<p>IEC 62561-1 Lightning protection system components (LPSC) - Part 1: Requirements for connection components</p> <p>IEC 62561-2 Lightning protection system components (LPSC) - Part 2: Requirements for conductors and earth electrodes</p> <p>IEC 62561-7 Lightning protection system components (LPSC) - Part 7: Requirements for earthing enhancing compounds</p>
Junction Boxes	
IEC 60529	Junction boxes and solar panel terminal boxes shall be of the thermo-plastic type with IP 65 protection for outdoor use, and IP 54 protection for indoor use
Energy Meter	
IS 16444 or as specified by the CSPDCLs	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/IS 4759	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

PROJECT REPORT FORMAT**Format for Summary Project Report for
Grid Connected Rooftop and Small SPV Power Plants**

1. Name of Bidder
2. RFS no.
3. Project details (Site location & Address)
4. Brief about the Rooftop Solar Power Generation System
5. Details of the beneficiary
6. Specifications of the Components and Bill of Material/ Quantities

Sl. no	Component	Specifications	Quantity	Make
A	Solar PV module			
A1	Aggregate Solar PV capacity (kWp)			
B	Grid Tie inverter (Type and Capacity)			
B1	Aggregate Inverter capacity (kVA)			
C	Module mounting structure (Certified by a Structural Engineer (Mandatory for 101 kWp to 500 kWp)			
D	Array Junction Box			
E	AC Distribution Board			
F	Cable (All type)			
G	Earthing Kit (maintenance free)			
H	Meters			
I	Online monitoring system			
J	Any other component			
K	Transformer			

7. Unit cost of solar power generation
8. Cost benefit analysis, payback period
9. Expected output/annum
10. Respective drawings for layout, electrical wiring connections, earthing, components etc.
11. Connectivity details with grid and metering arrangement (with sketch diagram)
12. Copy of electricity bill of the beneficiary and consumer number
13. Any other information
11. Documentary proof regarding beneficiary type as per clause 1.2 of the RFS

(The above information should be limited up to 2-3 pages only)

DECLARATION of AUTHORIZATION (For Part C only) (NOT APPLICABLE)

(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 ofto 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 State___ in response to the RFS No dated issued by RaipurSmart City Limited (RSCL), Raipur 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 RSCL may require us to submit.

The aforesaid undertaking is further authorized for making representations to the RaipurSmart City Limited, Raipur and providing information / responses to RSCL, Raipur representing us in all matters before RSCL, Raipur and generally dealing with RSCL, Raipur 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 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 the meaning ascribed to such terms under the RFS.

Signed by the within named

..... **(Insert the name of the executant 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:

RESCO

Date	Generation kWh	Grid outage (hh:mm)	Inverter down period (hh:mm)	Remarks
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

Total generation for the month in kWh:

Cumulative generation since commissioning in kWh:

CUF for month in %:

Cumulative CUF since commissioning in %:

Date:

Signature of the Authorised

Signatory of the Bidder

Annexure L

Project Completion Report for Grid-Connected Rooftop			
Financial year * :			
Approval No. * :			
Proposal Title :			
Installed by agency :			
Project initiated by :			
Title of the Project* :		Capacity (kWp)*:	
Category of the organization / beneficiary* :		Name of the contact person* :	
Address of contact person* :			
State* :		District/City* :	
Mobile* :		Email* :	
Telephone No. :	STD code-	Website :	
Other info			
Electricity Distribution Company Name :			
Electricity consumer account no. as per electricity bill :		as on Date :	
Bank Details of Beneficiary			
Name of A/c holder :			
Name of Bank :			
Name of Branch and Address :			
Bank IFSC Code :			
9 Digit Micr Code :			
Type of Account :			
Account No. :			
Adhar Card Number :			
Technology Description & System Design /Specification			
(Compliance to BIS/IEC Standards is mandatory)			
1. Module			
Capacity/Power of each PV Module(Wp)* :	1. Capacity/Power 2. Capacity/Power		1. Nos: 2. Nos:
Cumulative Capacity of Modules(KWp):			
Solar cell technology :			
Module efficiency (in Percentage) :			
2. Inverters			
Type of inverter :			
Make of inverter :			
Capacity/Power of each PCU/inverters (VA)* :	Capacity/Power Nos.		
Capacity/Power of PCU/inverters (KVA) :			
Inverter efficiency (Full load) : (in percentage)			

3. Metering Arrangement			
Details of Metering			
Type of Meter* :			
Make of Meter :			
5. Other information			
Units of electricity generated by the solar plant as per meter (in KWh):			
Monitoring Mechanism :			
No. of personnel to be trained in O&M:			
Task & Expected Schedule(in Months):			
Grid connectivity level			
Grid connectivity level phase* :		Grid connectivity level Voltage* :	
Costing of Project			
Hardware cost :		Total Cost of Installation :	
Rs.		Rs.	
Means of Finance			
Envisaged Central Financial Assistance from MNRE*		Rs.	
Incentive from states if any		Rs.	
Contribution of Beneficiaries*		Rs.	
Other Source (s) of Funding		Rs.	

**INTIMATION TO CSPDCL FOR IMPLEMENTATION OF GRID CONNECTED
ROOFTOP SOLAR PV PLANT UNDER
_____ SCHEME**

To,

Date:

(Designated Officer, CSPDCL)

1.	Name of SPD/Implementing Agency	
2.	Name of the Consumer*	
Site Details*		
3.	Address of the Rooftop Project Site:*	H No:
		Street Name:
		Village Name:
		District Name:
		State:
		Pin Code:
4	Phone / Mobile no. *	
5	Email Id:	
6	Electricity Consumer No. *	
7	Category (Please) *	<ul style="list-style-type: none"> • Residential • Commercial • Industrial • Educational • Government • Others, Specify
8	Installed Plant Capacity (kWp)*	
9	Connected load (kVA)*	
10	Voltage level at interconnection*	<ul style="list-style-type: none"> • 415 V • 11 kV • above 11 kV
11	Nearest Transformer Details	Location: Capacity:
12	Details of Inverter with Anti-Islanding Protection* Phase (Φ): (Please) Galvanic Isolation (Please)	Make: Capacity: <ul style="list-style-type: none"> • Single phase • 3-Phase • Inside Inverter • Outside Inverter
13	Both AC and DC components of the SPV power plants Earthed*:	•
14	CEIG Inspection required*	<ul style="list-style-type: none"> • Yes • No
15	If, Yes, Inspection date * (Attach copy of CEIG Certificate)	
16	Bank Account details	Account No Bank Branch
17	Date of Grid Synchronisation*	
18	Net metering and grid connectivity (Attach acknowledgement from CSPDCL, if received)	Applied on :
		Free Deposited On :

*to be provided mandatorily

It is certified that the information furnished above is true to the best of my knowledge.

Consumer / Authorised Signatory of
Implementing Agency on behalf of consumer

Copy To:

Engineer In-charge, RaipurSmart City Limited, Raipur

Undertaking from the Bidding Company on their Letter Head

Name:
Full Address:
Telephone No.:
E-mail address:
Fax/No.:
To,
Solar Energy Corporation of India
D-3, Wing-A, First Floor, Religare Building
Saket, Raipur-110017

Dear Sir,

We refer to the RFS No.....dated.....for "Implementation of 500 MW Grid connected Roof Top Solar PV System Scheme in selected Cities/States in India".

We have carefully read and examined in detail the RFS, including its amendments and clarifications as available on GoC e-procurement website (<https://eproc.cgstate.gov.in>).

We confirm that M/s..... (Insert name of Bidding Company/) has fulfilled all the requirements of MSME Act and as per the acknowledgement/certificate of MSME provided by (Insert name of Authority who has provided the MSME Certificate), we are eligible for execution of the Solar PV project for which the bid has been submitted by us in pursuance to the RSCL's RFS No.....dated.....

Further, we are complying and will continue to comply all terms and conditions of acknowledgement/certificate of MSME until any further orders from the MSME authority. Any change in the acknowledgement/certificate of MSME, submitted to RSCL, shall be immediately apprised to RSCL for their any further decision in this regard.

Further, we are also eligible for the benefits provided under MSME Act, 2006 and any further order issued by Govt. of India in this regard prior to last date of bid submission for the aforementioned RFS.

In case any information provided/documents submitted or anything material or otherwise is found w.rt above undertaking, RSCL shall have the right to cancel the capacity allocated/sanctioned to us and forfeit the Performance Bank Guarantee submitted by us. In addition to above, we (including our affiliate/parent/assigns) may also be debarred by RSCL to participate in any future tender .

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

Signature of Managing Director/Authorised signatory (with company Stamp)

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 cancelation of order as decided by RSCL. 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.

- Solar PV modules consisting of required number of Crystalline PV cells.
- Grid interactive Power Conditioning Unit with Remote Monitoring System
- Mounting structures to mount system component
- Required Junction Boxes.
- Earthing and lightning protections.
- Energy meters
- Plant monitoring/Data Acquisition system
- IR/UV protected Cables, DC and AC system components like connectors, fuses, switches, surge protection devices etc., pipes and accessories to finish the job.

1.1 SOLAR PHOTOVOLTAIC MODULES:

1.1.1 The PV modules used should be made in India.

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 300 Wp and above wattage. Module capacity less than minimum 300 watts 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 IEC authorized test centers.
- e) The module frame shall be made of corrosion resistant materials, preferably having anodized aluminium.

- f) The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid. RSCL/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.
 - IV. I-V curves at STC should be provided by bidder.

Solar PV modules

Plants installed in high dust geographies must have the solar modules tested with relevant dust standards (Applicable standard would be IEC 60068-2-68).

1.1.3 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) fails to conform to this warranty, the manufacturer will repair or replace the solar module(s), at the Owners sole option
- b) Performance Warranty:

- i. The predicted electrical degradation of power generated not exceeding 20% of the minimum rated power over the 25 year period and not more than 10% after ten years period of the full rated original output.

1.2 ARRAY STRUCTURE

- a) Hot dip galvanized MS mounting structures may be used for mounting the modules/ panels/arrays. Each structure should have angle of inclination as per the site conditions to take maximum output. 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. 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 RSCL. Suitable fastening arrangement such as grouting and calming 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. Aluminium 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. 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/m².
- h) The minimum clearance of the structure from the roof level should be 300 mm.

1.3 JUNCTION BOXES (JBs)

- a) The junction boxes are to be provided in the PV array for termination of connecting cables. The Junction Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.
- 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 earthings. It should be placed at 5 feet height or above for ease of accessibility.

- c) Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.
- 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.

1.5 AC DISTRIBUTION PANEL BOARD:

- a) AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.
- 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, 50 Hz
- 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 SIZE RATIO:

- a) The combined wattage of all inverters should not be less than rated capacity of power plant under STC.
- 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, 3 Phase, 50 Hz (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° C to 50° C
Humidity	95 % Non-condensing
Protection of Enclosure	IP-20(Minimum) for indoor.
	IP-65(Minimum) for outdoor.
Grid Frequency Tolerance range	+/- 5 Hz

Grid Voltage tolerance	-0.20.15
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	< 3%
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.
- 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 through external computer 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 (>100kW) 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 100 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.
- 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 BIS Std.

- 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 centres/ NABL/ BIS/ IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

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.

3 DATA ACQUISITION SYSTEM / PLANT MONITORING

- i. Data Acquisition System shall be provided for each of the solar PV plant above 10 kWp capacity.
- ii. Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis with the high quality, suitable PC. Metering and Instrumentation for display of systems parameters and status indication to be provided.
- iii. Solar Irradiance: An integrating Pyranometer / Solar cell based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system.
- iv. 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 energy meter.
- xi. The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form.
- xii. All instantaneous data shall be shown on the computer screen.
- xiii. Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant.
- xiv. Provision for instantaneous Internet monitoring and download of historical data shall be also incorporated.
- xv. Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system.
- xvi. Ambient / Solar PV module back surface temperature shall be also monitored on continuous basis.
- xvii. Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided.
- xviii. Remote Monitoring and data acquisition through Remote Monitoring System software at the owner / RSCL 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.
- xix. The bidders shall be obligated to push real-time plant monitoring data on a specified intervals (say 15 minute) through open protocol at reciver location (cloud server) in XML/JSON format, preferably. Suitable provision in this regard will be intimated to the bidders.

4 TRANSFORMER “IF REQUIRED” & METERING:

- a) Dry/oil type relevant kVA, 11kV/415V, 50 Hz Step up along with all protections, switchgears, Vacuum circuit breakers, cables etc. along with required civil work.
- b) The bidirectional electronic energy meter (0.5 S class) shall be installed for the measurement of import/Export of energy.
- c) The bidder must take approval/NOC from the Concerned CSPDCL for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network and submit the same to RSCL before commissioning of SPV plant.
- d) Reverse power relay shall be provided by bidder (if necessary), as per the local CSPDCL 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 RSCL. Decisions of appropriate authority like CSPDCL, 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

- a) 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 NFC 17-102:2011 standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.

6.2 SURGE PROTECTION

- a) 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

- a) Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition the lightning arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of Department/RSCL as

and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly.

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

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.

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: -10oC to +80oC
- iii. Voltage rating 660/1000V
- iv. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
- v. Flexible
- vi. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum (2%)
- vii. For the DC cabling, XLPE or, XLPO insulated and sheathed, UV-stabilized single core multi-stranded flexible copper cables shall be used; Multi-core cables shall not be used.
- viii. For the AC cabling, PVC or, XLPE insulated and PVC sheathed single or, multi-core multi-stranded flexible copper cables shall be used; Outdoor AC cables shall have a UV-stabilized outer sheath.
- ix. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use. Outer sheath of cables shall be electron beam cross-linked XLPO type and black in colour.
- x. The DC cables from the SPV module array shall run through a UV-stabilized PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm.
- xi. Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers

- xii. All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with thermo-plastic clamps at intervals not exceeding 50 cm; the minimum DC cable size shall be 4.0mm² copper; the minimum AC cable size shall be 4.0 mm² copper. In three phase systems, the size of the neutral wire size shall be equal to the size of the phase wires.
- xiii. Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified. In addition, cable drum no. / Batch no. to be embossed/ printed at every one meter.
- xiv. Cable Jacket should also be electron beam cross-linked XLPO, flame retardant, UV resistant and black in colour.
- xv. All cables and connectors for use for installation of solar field must be of solar grade which can withstand harsh environment conditions including High temperatures, UV radiation, rain, humidity, dirt, salt, burial and attack by moss and microbes for 25 years and voltages as per latest IEC standards. DC cables used from solar modules to array junction box shall be solar grade copper (Cu) with XLPO insulation and rated for 1.1kV as per relevant standards only.
- xvi. The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All the cables required for the plant shall be provided by the bidder. 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 /IEC 69947.
- 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	At HT/EHT level (11kV/33kV/66kV) as per CSPDCL rules

- a) The maximum permissible capacity for rooftop shall be 1 MW for a single net metering point.
- b) Utilities may have voltage levels other than above, CSPDCLS may be consulted before finalization of the voltage level and specification be made accordingly.
- c) For large PV system (Above 100 kW) for commercial installation having large load, the solar power can be generated at low voltage levels and stepped up to 11 kV level through the step up transformer. The transformers and associated switchgear would require to be provided by the SPV bidders.

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 RSCL/ 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. Three signage shall be provided one each at battery –cum- control room, solar array area and main entry from administrative block. Text of the signage may be finalized in consultation with RSCL/ owner.

11 FIRE EXTINGUISHERS:

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

- a) Portable fire extinguishers in the control room for fire caused by electrical short circuits
- b) Sand buckets in the control room
- c) The installation of Fire Extinguishers should confirm to TAC regulations and BIS standards. The fire extinguishers shall be provided in the control room housing PCUs as well as on the Roof or site where the PV arrays have been installed.

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 RSCL/owners before progressing with the installation work

13 PLANNING AND DESIGNING:

- a) 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 RSCL/Owner for approval.
- b) RSCL reserves the right to modify the landscaping design, Layout and specification of sub-systems and components at any stage as per local site conditions/requirements.
- c) The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder shall submit three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.

14 DRAWINGS TO BE FURNISHED BY BIDDER AFTER AWARD OF CONTRACT

- a) The Contractor shall furnish the following drawings Award/Intent and obtain approval
- b) General arrangement and dimensioned layout
- c) Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc.
- d) Structural drawing along with foundation details for the structure.
- e) Itemized bill of material for complete SV plant covering all the components and associated accessories.
- f) Layout of solar Power Array
- g) Shadow analysis of the roof

15 SOLAR PV SYSTEM ON THE ROOFTOP FOR MEETING THE ANNUAL ENERGY REQUIREMENT

The Solar PV system on the rooftop of the selected buildings will be installed for meeting upto 90% of the annual energy requirements depending upon the area of rooftop available and the remaining energy requirement of the office buildings will be met by drawing power from grid at commercial tariff of CSPDCLs.

16 SAFETY MEASURES:

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

17 DISPLAY BOARD

The bidder has to display a board at the project site (above 25 kWp) mentioning the following:

- a. Plant Name, Capacity, Location, Date of commissioning, estimated Power generation.
- b. Financial Assistance details from RSCL/MNRE/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 successful bidder
- c. The size and type of board and display shall be approved by Engineer-in-charge before site inspection.

40. Please refer **Annexure-G** for IEC standards to be mandatorily adhered.

**ANNEXURE I - 2155 KW Grid Connected Roof Top Solar PV System Scheme for
Government Buildings in Raipur, Chhattisgarh, India Under RESCO Model
PRICE BID for RESCO**

Sl. No.	Year of Operation	Tariff (INR / kWh)	Discount Factor @ 11%	Discounted Tariff (INR / kWh)
1	2	3	4	$5 = 3 * 4$
1	1st Year (First Year)		1.000	X1
2	2nd Year (Second Year)		0.901	X2
3	3rd Year (Third Year)		0.812	X3
4	4th Year (Fourth Year)		0.731	X4
5	5th Year (Fifth Year)		0.659	X5
6	6th Year (Sixth Year)		0.593	X6
7	7th Year (Seventh Year)		0.535	X7
8	8th Year (Eighth Year)		0.482	X8
9	9th Year (Ninth Year)		0.434	X9
10	10th Year (Tenth Year)		0.391	X10
11	11th Year (Eleventh Year)		0.352	X11
12	12th Year (Twelveth Year)		0.317	X12
13	13th Year (Thirteenth Year)		0.286	X13
14	14th Year (Forteenth Year)		0.258	X14
15	15th Year (Fifteenth Year)		0.232	X15
16	16th Year (Sixteenth Year)		0.209	X16
17	17th Year (Seventeenth Year)		0.188	X17
18	18th Year (Eighteenth Year)		0.170	X18
19	19th Year (Nineteenth Year)		0.153	X19
20	20th Year (Twentieth Year)		0.138	X20
21	21st Year (Twenty First Year)		0.124	X21
22	22nd Year (Twenty Second Year)		0.112	X22
23	23rd Year (Twenty Third Year)		0.101	X23
24	24th Year (Twenty Fourth Year)		0.091	X24
25	25th Year (Twenty Fifth Year)		0.082	X25
	Total		$X = X1+X2+X3.....X25$	
Levellized Tariff for 25 years(in INR / kWh) = $X/9.351$				
Levellized Tariff for 25 years in Words				

Notes

1 - In case of discrepancy in the price bid (Excel File) and Electronic Form, the Price mentioned in the Excel File will prevail.

2: - The year of operation for first year shall be calculated w.e.f. date of commercial operation to 31st March of immediately succeeding financial year.

3: - The year of operation from second year upto twenty fifth year shall be calculated w.e.f. 1st April to 31st March of immediately succeeding financial year.

a. The levellized tariff shall be calculated up to three decimal places. However in case of a tie it may be expanded to break the tie.

b. Tariff stream quoted by the bidder shall be levellized with a discounting rate of 11% only.

c. Maximum allowable Levellized Tariff for this part is as per clause no. 2.1.4, Part-II of RfS document.

d. Bids not in conformity with above provisions will be rejected

Date

Signature of Authorised Signatory

Place

Printed Name

Address

Designation

Seal

Annexure-II List of Government Building proposed for Rooftop Solar PV System

Sr. No.	Particulars	Tentative Area available for placing SPV (In sq.mtr)	Indicative Rooftop Potential Capacity in kWp
1	Mahila Thana	79	7
2	Motibagh/Raipur Press Club	161.6	13
3	CG Rajya Nirwachan Ayog	540.1	45
4	Samaj Kalyan Vibhag		
5	CG Rajya Suchana Ayog	648	54
6	Mukhya Niwachan Padadhikari karyalay, CG raipur		
7	CG Rajya Vidhi Ayog	417.6	35
8	CG investment promosion Board		
9	CIDC		
10	Industrial Court	391.5	33
11	State Transport Corporation	391.5	33
12	Mahanirikshak Panjiyan & Adhikshak Mudrank	442.3	37
13	Old Ministry 1	8400.3	700
14	Old Ministry 2		
15	Tahasil Office	101.4	8
16	Old RDA Building	456	38
17	Nagar & Gram Nivesh Vibhag		
18	Sanchalanalay Ayush	566.4	47
19	Nagariya Prashasan Vibhag		
20	Multilevel Parking	3131.2	261
21	Shahid Smarak School (Zone 2) 1	609.6	51
22	Shahid Smarak School (Zone 2) 2		
23	Nivedita School	669.6	56
24	R.D. Tiwari School	660	55
25	Old MC Building 1	255.7	21
26	Old MC Building 2		
27	Old MC Building 3		
28	City Kotwali Police Station	155	13
29	Kankali Hospital	240.3	20
30	Vishesh Aparadh Anusandhan Kendra	160.7	13
31	Dani Girls School 1	1469.1	122
32	Dani Girls School 2		
33	Dani Girls School 3		
34	SC/ST Police Station	153.6	13
35	Madhavrao Sapre School	294	25

36	Bhu Abhilekh Office 1	727.3	61
37	Bhu Abhilekh Office 2		
38	Bhu Abhilekh Office 3		
39	Bhu Abhilekh Office 4		
40	Bhu Abhilekh Office 5		
41	Bhu Abhilekh Office 6		
42	Lok Ayog Office	660	55
43	CG Sanwad Jansampark Office	180	15
44	Gol Bazar Police Station	64.8	5
45	TB Hospital	366.9	31
46	Commissioner Food Inspection Lab.	240.4	20
47	Durga College	914.3	76
48	Durga College		
49	Durga College		
50	J.N. Pandey school Building-1	888.2	74
51	J.N. Pandey school Building-2		
52	J.N. Pandey school Building-3		
53	J.N. Pandey school Building-4		
54	District Hospital	1418.6	118
	Total	25855	2155

Note:

- (1) If require bidder has to do liaisoning work with DISCOM regarding one Energy meter for property instead of multiple Energy meters. Statutory fees will be paid by building owner.
- (2) Above mentioned buildings are indicative only. Building number can be increased or decreased as per RSCL instruction.
- (3) Once Bidder is finalized, bidder has to do detail feasibility of each building for shadow free area and plant capacity. Above mentioned details are indicative only.

Annexure III

MODEL POWER PURCHASE AGREEMENT (PPA)

BETWEEN

**CONTRACTOR AND GOVT.ORGANIZATION, PSU
AND OFFICES**

FOR

**DESIGN, MANUFACTURE, SUPPLY, ERECTION,
TESTING AND COMMISSIONING INCLUDING
WARRANTY, OPERATION & MAINTENANCE OF
GRID CONNECTED ROOF-TOP SOLAR
PHOTOVOLTAIC AND SMALL SOLAR POWER
PLANTS IN RESCO MODEL**