

**SOLAR ENERGY CORPORATION OF INDIA LTD.
NEW DELHI**

SECI/C&P/1000MW/PFR/RfS/-Amendment-01

dated 26-Sep-16

Amendment to the RfS for selection of Agencies for preparation of PFRs for installation of grid connected rooftop solar PV systems in packages in India																	
RfS No. SECI/CONT./03/2016/A/1000 dated 19.08.2016																	
Sr. No.	Clause No.	Page No.	Existing Clause		Amended Clause												
1	1	4	The total No. of Buildings under various Ministries, PACKAGES-wise, which are located in India, having capacity of over 1000 MW where site assessment has to be carried out are provided in Annexure-B .		The total No. of Buildings under various Ministries, PACKAGES-wise, which are located in India, having capacity of over 1000 MW where site assessment has to be carried out are provided in Annexure-B . The selected bidder shall be required to visit all the buildings at the sites included in the respective Packages. A “Building” shall mean any structure, having only a SINGLE access to the rooftop, through a staircase/elevators or both.												
2	3	4	<p>Maximum Cost: The maximum allowable cost per project is mentioned below which is inclusive of all expenses and taxes. Any bid quoting above this maximum allowable cost will be rejected. The maximum allowable cost per project shall be as follows:</p> <table><tr><th>Sl. No</th><th>Project Size</th><th>Maximum allowable cost/building (Rs.)</th></tr><tr><td>1</td><td>1 kWp to 25 kWp</td><td>4000</td></tr><tr><td>2.</td><td>26 kWp to 100 kWp</td><td>5000</td></tr><tr><td>3</td><td>101 kWp and Above</td><td>6000</td></tr></table>		Sl. No	Project Size	Maximum allowable cost/building (Rs.)	1	1 kWp to 25 kWp	4000	2.	26 kWp to 100 kWp	5000	3	101 kWp and Above	6000	Maximum Cost: The maximum allowable cost per building to be quoted by the bidder, shall be Rs. 8000/- inclusive of all taxes. The maximum price allowable shall remain the same irrespective of the Package opted by the bidders.
Sl. No	Project Size	Maximum allowable cost/building (Rs.)															
1	1 kWp to 25 kWp	4000															
2.	26 kWp to 100 kWp	5000															
3	101 kWp and Above	6000															

3	4	4	Eligibility of the Bidder: A joint bid/consortium/sub-consultant is not allowed. The bidders are required to meet the following eligibility criteria in order to participate in the bid:	Eligibility of the Bidder: The bidder may be a Company registered under the Companies Act or a Partnership, or a Proprietorship or Society registered in India. A joint bid/consortium/sub-consultant is not allowed. The bidders are required to meet the following eligibility criteria in order to participate in the bid:
4	4.b.	5	Must have an annual turnover of at least INR 10 lakhs in at least two of the last three financial years, i.e. FY 2012-13, 2013-14 and 2014-15.	Must have an annual turnover of at least INR 10 lakhs in at one of the last four financial years, i.e. FY 2012-13, 2013-14 and 2014-15, 2015-16.
5	7.1	7	The Contractor shall, within five (5) working days of the issue of LOA, provide Bank Guarantee(s) for the due Performance of the Contract for an amount of 10% of the Quoted price and validity of Six (6) Months from the date of issue of LOA. The PBGs shall be submitted package-wise, to SECI.	The Contractor shall, within ten (10) working days of the issue of LOA, provide Bank Guarantee(s) for the due Performance of the Contract for an amount of 10% of the Total Quoted price and validity of Six (6) Months from the date of issue of LOA. The PBGs shall be submitted package-wise, to SECI.
6	7.2	7	Encashment of PBG: In case of delay in assessment report submission beyond the scheduled completion time period of 45 days from the issue of LOA, the PBG shall be encashed on pro-rata basis for a further period of 30 days beyond the completion of report submission deadline. In case of delay in submission of the report beyond (45+30) days, i.e. 75 days from the issue of LOA, the entire PBG shall be encashed and the award of work shall stand cancelled. SECI reserves the right to award the same work to any other agency.	Encashment of PBG: In case of delay in assessment report submission beyond the scheduled completion time period of 45 days from the issue of LOA, the PBG shall be encashed on pro-rata basis, corresponding to the number of sites completed, for a further period of 30 days beyond the completion of report submission deadline. The amount of penalty shall be calculated on per day basis and pro-rata on the number of sites completed from the total number of sites in the corresponding Package, beyond the original deadline of report submission. In case of delay in submission of the report beyond (45+30) days, i.e. 75 days from the issue of LOA, the entire PBG shall be encashed by SECI and the award of work shall stand cancelled. SECI reserves the right to award the same work to any other agency.
7	8.1	7	Amended as indicated in the next column	The bidder shall submit Bid Security (Bid bond) for an amount of Rs. 20,000/- (Twenty thousand rupees only) for EACH Package.

				Bidders registered as MSMEs are exempted from furnishing the above mentioned bid bond. However, such bidders shall have to furnish the appropriate cerfications from the concerned Ministry/Department along with the response to RfS. The Bank Guarantee (s) shall be in favour of “Solar Energy Corporation of India Limited” payable at New Delhi from any bank specified in the “Appendix 8: List of Banks” enclosed at Forms and format of this Bidding documents. The Employer shall not be liable to pay any interest on the Bid security. The Bank Details of SECI are as follows: Bank Name: Union Bank of India Branch Address: Nehru Place Branch, New Delhi-110019 Beneficiary Acc. No.: 412101010000709 Beneficiary Account Name: Solar Energy Corporation of India Limited MICR Code of Bank: 110026030 Branch IFS Code: UBIN0541214																
8	9	8	Bid Capacity: Bidder can apply for a maximum of two (02) Packages together and a minimum of one (01) package out of the Eight (8) no. of PACKAGES as mentioned in Annexure-B. State and city-wise list of buildings in different Eight PACKAGES is provided in Annexure-B.	Bid Capacity: Bidder can apply for a maximum of two (02) Packages together and a minimum of one (01) package out of the Fourteen (14) no. of PACKAGES as mentioned in Annexure-B. State and city-wise list of buildings in different 14 PACKAGES is provided in Annexure-B.																
9	12	9	Payment Schedule: <table><tr><th><i>Payme nt</i></th><th><i>Deliverables</i></th><th><i>Timeline from the Award of Work Order</i></th><th><i>Payment (% of the total Work Order price)</i></th></tr><tr><td>I</td><td>On submission and</td><td>Within 1.5 Months (45 Days)</td><td>70% of project cost shall be paid</td></tr></table>	<i>Payme nt</i>	<i>Deliverables</i>	<i>Timeline from the Award of Work Order</i>	<i>Payment (% of the total Work Order price)</i>	I	On submission and	Within 1.5 Months (45 Days)	70% of project cost shall be paid	Payment Schedule: <table><tr><th><i>Payme nt</i></th><th><i>Deliverables</i></th><th><i>Timeline from the Award of Work Order</i></th><th><i>Payment (% of the total Work Order price)</i></th></tr><tr><td>I</td><td>On submission and approval of</td><td>Within 1.5 Months (45 Days)</td><td>80% of project cost shall be paid on submission and</td></tr></table>	<i>Payme nt</i>	<i>Deliverables</i>	<i>Timeline from the Award of Work Order</i>	<i>Payment (% of the total Work Order price)</i>	I	On submission and approval of	Within 1.5 Months (45 Days)	80% of project cost shall be paid on submission and
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I	On submission and approval of	Within 1.5 Months (45 Days)	80% of project cost shall be paid on submission and																	

				approval of Feasibility Assessment Report for all the buildings for which Work Order is Awarded.		on submission and approval of assessment report for all the buildings of PACKAGE awarded (no advance shall be paid)			Feasibility Assessment Report for all the buildings for which Work Order is Awarded.		approval of assessment report for all the buildings of PACKAGE awarded (no advance shall be paid)
			2	When successful solar rooftop developers examine the Assessed buildings (whose reports have been submitted by the selected bidder in respective PACKAGE) to	Within 15 days	30% of project cost shall be paid on the date of the release of sanction order to the respective rooftop developer(s) of the corresponding buildings or 9 months from the approval of the assessment		2	When successful solar rooftop developers examine the Assessed buildings (whose reports have been submitted by the selected bidder in respective PACKAGE) to implement the Grid connected		20% of project cost shall be paid on the date of the release of sanction order to the respective rooftop developer(s) of the corresponding buildings or 9 months from the approval of the assessment report by the successful bidders, whichever is earlier.

				implement the Grid connected roof top projects and the identified capacity is found within the tolerance of +/- 15% of the capacity originally proposed by the successful bidder of the respective PACKAGE.		report by the successful bidders, whichever is earlier.			roof top projects and the identified capacity is found within the tolerance of +/- 15% of the capacity originally proposed by the successful bidder of the respective PACKAGE.		
			The 30% amount of total project cost shall be paid after the site inspection by the prospective bidders of upcoming 1000 MW Grid connected roof top scheme, of Assessed building under this RfS.						The 20% amount of total project cost shall be paid after the site inspection by the prospective bidders of upcoming 1000 MW Grid connected roof top scheme, of Assessed building under this RfS.		

10	14	10	Processing fee – Bid processing fee of Rs. 5,000/- inclusive of all applicable taxes per PACKAGE shall be submitted by the bidders. Bid processing fee for each PACKAGE is to be submitted separately. The processing fee shall be submitted in the form of Demand Draft (DD), in favour of “Solar Energy Corporation of India Limited”, payable at New Delhi.	Processing fee – Bid processing fee of Rs. 5,750/- inclusive of all applicable taxes <u>per PACKAGE</u> shall be submitted by the bidders. Bid processing fee for each PACKAGE is to be submitted separately. The processing fee shall be submitted in the form of Demand Draft (DD), in favour of “Solar Energy Corporation of India Limited”, payable at New Delhi.
11	19.	10	Procedure for electronic Reverse Auction (e-RA)	deleted
12	20	11	Amended as indicated in the next column	Selection of Successful Bidders <ol style="list-style-type: none"> Selection of bidders shall be done separately for each Package. The price bids of only techno-commercially shortlisted bidders shall be opened for each Package. Opening of price bids shall be done online on the TCIL portal. For each package, the price bids shall be arranged in an ascending manner. The bidder quoting the lowest price shall (L1) shall be declared as the successful bidder for the corresponding package. In case of single bidding received against any Package, the decision of award of work to the single bidder shall be taken by SECI after due consideration. In case of a tie between two bidders for the L1 price, the bidder having the higher annual turnover as per the submitted documents, shall be declared the successful bidder for the corresponding package. At the end of the selection process, Letters of Award (LOAs)/Notice to Proceed will be issued to the successful bidders in each package. In all cases, SECI’s decision regarding selection of bidders for the opening of price bids and final allotment of LOAs shall be final and binding on all bidders.
13	Appendix -7	25	Renamed as “Sample Format for Satisfactory operation (on Plant Owners/rooftop owners’ letter head)”	

14	Annexure -A	30	Annexure-A is amended as follows:		
			PRICE BID FORM		
			S No.	Name of the PACKAGES	Unit Cost Per Building (INR) (inclusive of all taxes and expenses)
					{Insert your quote per Building}
			1	{e.g. PACKAGE-A}	
			2	{e.g. PACKAGE-B}	
			3	{e.g. PACKAGE-C}	
			Total (in figures, INR)		
			Total (in words)		
			<p>(NOTE:</p> <p>1. A bidder shall be allowed to participate only in two Packages out of the total 14 packages.)</p> <p>2. In case of discrepancy between unit price and total price, the unit price shall prevail.</p> <p>3. In case of discrepancy between words and figures, the amount in words shall prevail.</p>		
<p>Date:</p> <p>Place:</p> <p>Designation</p> <p>Address of the Company</p>					
<p>Signature of the Authorized signatory</p> <p>Name.....</p>					

15	Annexure -B	31	Annexure-B is amended as follows:	
			<u>STATE AND CITY-WISE LIST OF BUILDINGS</u>	
			The List of Buildings of Ministries/Department Allocated to SECI out of 21 Ministries/Department Allocated to SECI are as follows –	
			Ministry	Estimated Rooftop Potential (kWp)
			MHRD	801798
			Ministry of Agriculture	9098
			Ministry of Consumer Affairs, Food & Public Distribution	49549
			Ministry of Culture	101290
			Ministry of Defence	87997
			Ministry of Defence - Department of Ex-Servicemen Welfare	3180
			Ministry of Housing and Urban Poverty Alleviation	943
			Ministry of Minority Affairs	41
			Ministry of Personnel, Public Grievances and Pensions	918
			Ministry of Shipping	14943
			MINISTRY OF SOCIAL JUSTICE & EMPOWERMENT	45
			Ministry of Textiles	30509
			Total	1100310

			<p>Package-wise list of identified buildings is uploaded with the RfS on TCIL Website. The various States/UTs are arranged in various Packages as follows:</p> <ul style="list-style-type: none"> i. Package-A: Andhra Pradesh and Telangana ii. Package-B: Karnataka and Kerala iii. Package-C: Tamil Nadu and Andaman & Nicobar Islands iv. Package-D: Goa and Maharashtra v. Package-E: Gujarat vi. Package-F: Rajasthan vii. Package-G: Bihar, Jharkhand & West Bengal viii. Package-H: Madhya Pradesh ix. Package-I: Chhattisgarh and Odisha x. Package-J: Jammu & Kashmir xi. Package-K: Delhi/NCR and Harayna xii. Package-L: Chandigarh, Punjab and Himachal Pradesh xiii. Package-M: Uttarakhand and Uttar Pradesh xiv. Package-N: Sikkim, Arunachal Pradesh, Nagaland, Tripura, Manipur, Assam, Meghalaya, Mizoram
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Amended Formats in the RfS Document

Appendix-1

Format for bid letter

(On Bidder's Letter Head)

To

**Sh. Sanjay Sharma, General Manager (C&P),
Solar Energy Corporation of India limited,
1st floor, Wing A, Religare Building,
D – 3, District Centre, Saket,
New Delhi – 17,**

Dear Sir,

We have understood the instructions and the terms and conditions mentioned in the RfS Document (Enter RfS No.....) and have thoroughly examined the RfS Document and are fully aware of the scope of work required. We give our unconditional acceptance to the Bid, dated _____ and Bid Documents attached thereto, issued by Solar Energy Corporation of India Ltd. (hereinafter called as "the Employer" or "Employer"), as amended. As a token of our acceptance to the Bid Documents, the same have been digitally signed by us and uploaded along with the response to RfS. We shall ensure that we execute such Bid Documents as per the provisions of the Bid and provisions of such Bid Documents shall be binding on us. We have submitted our Price Bid strictly as per Annexure-A of the RfS, without any deviations, conditions and without mentioning any assumptions or notes for the Price Bid in the said format. We confirm that all the terms and conditions of our Bid are valid for a period of 120 days from the bid submission deadline.

We are hereby submitting our "Technical Bid" as per prescribed format:-

S.NO.	ITEMS	PARTICULARS
1	NAME OF THE COMPANY	
2	NAME OF THE AUTHORISED REPRESENTATIVE OF THE COMPANY	
3	TELEPHONE NUMBER	
4	FAX No.	
5	EMAIL	
6	ADDRES OF THE COMPANY/FIRM	
7	STATUS OF THE FIRM, OWNERSHIP, IF REGISTERED SOCIETY, (Enclose Memorandum And Articles of Association, Along With Certificate of Incorporation)	

8	Details of minimum turn-over of the Organization during any of the last 4 years (enclose the audited financial accounts/ balance Sheets) and	
9	Details of major assignments (Experiences): Experience with solar park and due diligence for solar power project	

We further agree and stipulate as follows:

1. Until the final Contract Documents are prepared and executed, the RfS documents, with any modifications, additions, deletions agreed with the Employer and your written acceptance submitted in the form signed and stamped RfS documents along with its amendments (if any) by Authorized signatory of the contractor at the time of bidding, shall constitute a binding Contract between us, upon terms contained in aforesaid documents and the Financial Proposal accompanying the Bid.
2. That the Employer will not supply any men, material & logistics. In all respects we shall be fully self-sufficient in the Performance of the work.
3. I/ We understand that Employer is not bound to accept the lowest of the Bid you may receive.
4. I/ We shall make available to the Employer any additional information it may find necessary or require to supplement or authenticate the qualification statement.
5. I/ We acknowledge the right of the Employer to reject our Bid without assigning any reason or otherwise and hereby waive, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.
6. I/ We understand that you may cancel the bidding process at any time and that you are neither bound to accept any Application that you may receive nor to invite the Applicants to Bid for the Project, without incurring any liability to the Applicants.
7. I/ We further certify that in regard to matters relating to security and integrity of the country, we or any of our Associates have not been charge-sheeted by any agency of the Government or convicted by a Court of Law.
8. I/ We further certify that no investigation by a regulatory authority is pending either against us or against our Associates or against our CEO or any of our directors/ managers/ employees.
9. I/ We undertake that in case due to any change in facts or circumstances during the bidding process, we are attracted by the provisions of disqualification in terms of the provisions of this RfS; we shall intimate the Employer of the same immediately.

10. I/ We hereby irrevocably waive any right or remedy which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by the Employer in connection with the selection of Applicants, selection of the Bidder, or in connection with the selection/ bidding process itself, in respect of the above mentioned Project and the terms and implementation thereof.
11. I/ We agree and undertake to abide by all the terms and conditions of the RfS document.
12. We agree to keep the bidding valid for acceptance for a period of 120 days from the date of floating the Bid (hereinafter referred to as validity period) and the Bid shall not be withdrawn on or after the opening of bidding till the expiration of the validity period or any extension thereof.
13. We also undertake not to vary/ modify the Bid during the validity period or any extension thereof.
14. We further represent that we have familiarized ourselves with all the terms and provisions of the various parts of the bidding documents and that in making our Bid, we do not rely upon any representation made by any agent or employee of yourselves in respect of the terms of the bidding documents or the nature of the Performance of the works.
15. We submit this Bid with the full understanding that our Bid fully complies with all the terms and conditions of the RfS documents including Bid evaluation criteria and that no deviation/exception to the RfS documents have been taken by us. We also agree that in case we have taken any exceptions/ deviations to the RfS documents, the Employer will be free to reject our offer on account of such exceptions/deviations.

For and on behalf of:

Signature:

(Authorized Signatory)

Name of the Person:

Designation:

(Note: The above Format supersedes the Format included in the RfS issued on 19.08.2016)

POWER OF ATTORNEY

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

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 selection of Agencies for purpose of feasibility assessment at various buildings as per Bid specification in response to the RfS No dated issued by Solar Energy Corporation of India Limited (SECI), New Delhi including signing and submission of the Bid and all other documents related to the Bid, including but not limited to undertakings, letters, certificates, acceptances, clarifications, guarantees or any other document which SECI may require us to submit. The aforesaid Attorney is further authorized for making representations to the Solar Energy Corporation of India Limited, New Delhi and providing information / responses to SECI, New Delhi representing us in all matters before SECI, New Delhi and generally dealing with SECI, New Delhi in all matters in connection without Bid till the completion of the bidding process as per the terms of the above mentioned Bid.

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 Bid.

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:

- (1) 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.
- (2) 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.
- (3) 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).

(Note: The above Format supersedes the Format included in the RfS issued on 19.08.2016)

**FEASIBILITY ASSESSMENT REPORT FOR GRID CONNECTED
ROOFTOP SOLAR PV SYSTEM OF XX kWp CAPACITY**

AT

“***NAME OF THE INSTITUTION*****”**

“Site Picture”

Submitted to



SOLAR ENERGY CORPORATION OF INDIA LIMITED

(A Government of India Enterprise)

1st floor, Wing A, Religare Building, D – 3, District Centre, Saket, New Delhi – 17

Tel: 011 – 71989256,

(On letterhead of Office/ Institution)

Date:

To,

General Manager (C&P)

Solar Energy Corporation of India Limited

1st floor, Wing A, Religare Building, D – 3, District Centre,

Saket, New Delhi – 17.

Tel: 71989256

Subject: Visit for Rooftop Assessment and Collection of required data

This is to confirm that experts (Mr.& Mr.) from **M/s ****Name of the Solar Consultant***** visited our office/ institution and conducted rooftop assessment survey of the following buildings:

1. Admin Block
2. Canteen
3. Hostel
4. Etc.

We have also shared the following documents with the Solar Consultant in soft/hard copies (e.g. *annual electricity bills, annual diesel quantity/ expenses etc.*).

(Signature)
(Name of authorised Person)

Email:
Tel/ Mob No.:

1. BRIEF SUMMARY OF ASSESSMENT

S. No.	Particulars	Descriptions
1.	Name of the Office/ Institution	
2.	Office/ Institution Address	
3.	Name of the Authorised Officer	
	Designation:	
	Tel No.:	
	Mobile No.:	
	Email:	
4.	Latitude	
5.	Longitude	
6.	Site Accessibility	
	Road	
	Nearest Railway Station	
	Nearest Airport	
	Nearest Town/ City	
7.	Current Contracted Load (kVA or kW)	
8.	Average Yearly Electricity Consumption (kWh)	
9.	Current Average Electricity Rate (INR/ kWh)	
10.	Is DG utilized for power generation? (to be furnished if available)	
	If yes, what is yearly average diesel consumption	
11.	Status of Net Metering Policy in the State	
12.	Prevailing DISCOM rates for power generated from Grid Connected Solar PV system (INR/ kWh) (if any)	
13.	Total Roof Area Available (Sq. m)	
14.	Unshaded Roof Area available for Grid Connected Solar PV System (Sq. m)	
15.	Recommended Solar Rooftop PV Capacity (kWp)	
16.	Estimated Average Electricity Generation (kWh)	

2. INTRODUCTION

- Brief about the Office/ Institution
- Nature of activity carried out at the Office/ Institution

3. CURRENT ELECTRICITY SCENARIO AT THE SITE

a) Grid Power:

Grid Connection Details:	
Name of the DISCOM	

Sanctioned Contract demand (in kVA)	
Voltage	
Frequency	
Average Power Cost (INR/ kWh)	
Monthly power consumption (in kWh) for the past 12 months	

Sl. No.	Month	Power Consumption (kWh)	Bill (INR)
1	April 2015		
2	May 2015		
3	June 2015		
4	July 2015		
5	August 2015		
6	September 2015		
7	October 2015		
8	November 2015		
9	December 2015		
10	January 2016		
11	February 2016		
12	March 2016		
	TOTAL		

Approximate percentage of power consumed between 10 AM to 5 PM (Load profile)

Working days per week (include details for all buildings)

Is there any consumption during non-working days? If so, what is the load (kW or kVA, as a proportion of full load) and power consumption (kWh)

b) Power backup (to be furnished if available):

Whether any power backup (for e.g. Diesel Generator Set) is used? If yes,

- i. Source of power generation :
- ii. Annual power generation from the source (kWh) :
- iii. Annual fuel consumption (kL / ton) :
- iv. Annual fuel cost (INR/ year) :

4. SITE DESCRIPTION (FOR EACH BUILDING)

Location details

- a. Latitude and longitude (degree)
- b. Elevation of buildings (m)
- c. Photograph from google maps

Insert Google map (location of the building)

5. ASSESSMENT OF THE BUILDING

A. Name of the Building : Building-1...2....3

a) Roof Area Assessment (for each building)

- i. Orientation of Building (provide photographs, layout of building/ roof with north direction clearly marked in it).
- ii. Type of roof (RCC with Parapet/ RCC without Parapet/ Tin/ Asbestos/ any other material with penetration allowed/ Mixed Roof etc.)
- iii. Is the roof flat? In case the roof is slant, what is the slope of the roof and which direction is the roof facing (North/South/East/West)?
- iv. Whether the roof will be able to bear the load of the proposed Grid Connected Solar PV System? Yes/ No/ Doubtful (Need reinforcement, old RCC roof). Provide photographs of pillar, beam, cross beam etc.
- v. Are the surroundings very dusty and polluting? Is there any chance for more dust in the modules?
- vi. Photographs of the roof top and the surroundings (All sides)
- vii. The minimum clearance of the structure from the roof level should be 300 mm.

East side

West Side

North Side

South Side

North-west Side

North - east Side

Photograph of the roof top and surroundings

b) Shading Assessment (for each building):

- i. Details of any tall structures within the building (for e.g. water tank, building columns, etc) or in the surroundings (for e.g. tall buildings in the vicinity, trees etc.).
- ii) Is any construction activity going on in the vicinity? Will the upcoming structure further reduce the rooftop area because of shading?

(Please include the photographs)

- iii. Estimate the usable area available based on shading analysis
- iv. Provide roof area drawing (in AutoCAD or any other similar software used for Computer Aided Design of the system) with dimensions (m) and directions. Show the shaded and non-shaded area clearly.
- v. Clearly mention the methodology of shading analysis (whether through Solar Pathfinder/ Google Sketchup or any other 3D modeling tool)

c) Resource Assessment

- i. Solar resource (kWh/m²/year & kWh/m²/day) availability at the site. Mention the source of data.
- ii. Other meteorological parameters: Wind speed, temperature range, no. of rainy days etc.

6. SOLAR ROOFTOP PV SYSTEM

a) Sizing of the Grid Connected Rooftop PV System

- i. Sizing of the Grid Connected Solar PV System (in kWp) based on parameters including rooftop area, shadow analysis, permission/ allocation from DISCOM (as per net metering policy of the State), evacuation arrangements, energy usage etc.
- ii. Show the detailed calculation for the proposed capacity of the plant.

b) Yield Assessment

- i. Estimated Energy Yield from the Plant (kWh/ year). Clearly mention the assumptions made for estimating the yield.

c) Power evacuation:

- i. Infrastructure available at sites (HT/LT connection/ arrangement with DISCOM/Grid, HT/LT Transformer capacity, Metering arrangement, disconnection

devices etc.)

- ii. Distance (in m) between the roof and the main switchboard/incomer and as well as the location of the DISCOM meter.

Please include the photographs

7. APPROVALS

- i. List of approvals/ clearances/ certificates required for construction, installation and commissioning of the plant.

8. ANNEXURE

- i. Monthly Electricity, diesel or any other Bills (to be furnished if available)
- ii. Single Line Diagram of the proposed solar PV system.
- iii. Cable Distribution Diagram of the proposed solar PV system.
- iv. Drawings for existing arrangements for Earthing and Lightning Protection (to be furnished if available).

(Note: The above Format supersedes the Format included in the RfS issued on 19.08.2016)