

e-TENDER DOCUMENT

FOR

Supply, Installation, Testing and Commissioning including 5 years Operation, Comprehensive Warranty and Maintenance of 70 KWGrid Connected Rooftop Solar Photovoltaic Power Plant (including Power evacuation system) in UPERC Building, District Lucknowin the State of Uttar Pradesh.

e-tenderNO.-01/UPNEDA-UPERC/Grid Connect/Rooftop/2017



Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA)
(Deptt. of Additional Sources of Energy, Govt. of U.P.)
VibhutiKhand, Gomti Nagar, Lucknow, U. P.
Tel.No. 91-0522-2720652, TeleFax: 0522-2720779, 2720829
Website: www.upneda.org.in e-mail: compneda@rediffmail.com

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e-tender Notice
Uttar Pradesh New and Renewable Energy Development Agency, (UPNEDA)
 (Deptt. of Additional Sources of Energy, Govt. of U.P.)
 VibhutiKhand, Gomti Nagar, Lucknow U P
 Tel.No. 91-0522-2720652, TeleFax: 0522-2720779, 2720829
 Website:www//upneda.org.in E-Mail: compneda@rediffmail.com

UPNEDA invites Online Bids from Prospective Bidders through e-tendering for Supply, Installation, and Testing

and Commissioning of 70 KW Grid Interactive Rooftop Solar Photovoltaic Power Plant and power evacuation system – including meters and other necessary infrastructures including 5 years Operation, Comprehensive Warranty and Maintenance of Grid Interactive Rooftop Solar Photovoltaic Power Plant and power evacuation system in UPERC Building in Lucknow in the State of Uttar Pradesh as per the details given in e-tender document. The tender document is available at e-Procurement website <http://etender.up.nic.in> and UP Electronics Corporation's website www.uplc.in from 12-06-2017. Interested bidders may view, download the e-Bid document, seek clarification and submit their e-Bid online up to the date and time mentioned in the table below.

	E-tender No	01/UPNEDA-UPERC/Grid-connect/Rooftop/2017
	Fee of e-tender Document	1050/-(inclusive of vat)
	Earnest Money	45500
(a)	Availability of tender document on website	12-06-2017 at e-Procurement web site http://etender.up.nic.in
(b)	e-Bid submission end date & Time	4-7-2017 up to 06.00 PM
(c)	Online technical e-Bid opening date & time	05-07-2017 at 12.30 PM
(d)	Online financial e-Bid opening date & time (Only of technically qualified bidders)	11-07-2016 at 1.00 PM
(e)	Venue of opening of technical & financial e-Bids	UPNEDA Head Office, Vibhuti Khand, Gomti Nagar, Lucknow-226010

The companies/firms who are registered at e-Procurement portal for e-tendering with U.P. Electronics Corporation Ltd. (UPLC), 10, Ashok Marg, Lucknow (UP) would only be eligible for participating in this e-tender. All companies/firms who have not registered themselves with UPLC for e-tendering till date can get their registration done. The companies/firms may contact U.P. Electronics Corporation Ltd. (UPLC), 10, Ashok Marg, Lucknow (UP) for their Registration. The bidders need to submit the proof/cost of e-Bid document fees and EMD as stated in the above table through Demand Draft as bid documents fees and bank guarantee as EMD in favour of Director Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA), payable at LUCKNOW. The scanned copy of the Demand Draft and Bank guarantee must be enclosed along with the e-Bids. The original Demand Draft and bank guarantee along with the hard copy of the blank document with enclosures duly signed by bidders must reach the office of UPNEDA at VibhutiKhand, Gomti Nagar Lucknow before opening date and time of technical e-Bid failing which, tender shall not be considered. Director, Uttar Pradesh New and Renewable Energy Development Agency, (UPNEDA) reserves the right to reject any or all tenders without assigning any reason thereof. The decision of Director UPNEDA will be final and binding.

Director
UPNEDA

DEFINITIONS

The words and expressions beginning with capital letters and defined in the E-BID DOCUMENT shall, unless repugnant to the context, have the meaning ascribed thereto herein. In absence of availability of definitions in the foregoing references, the capitalized terms shall be interpreted in accordance with the Electricity Act 2003, the CERC (Terms and Conditions of Tariff) Regulations 2012, the UP Supply Code or any other relevant electricity law, rule or regulation prevalent in India, as amended or re-enacted from time to time, in that order. The following terms are defined for use in the E-BID DOCUMENT:

“**Appropriate Commission**” shall mean the Uttar Pradesh Electricity Regulatory Commission set up under the Electricity Act 2003;

“**Bids**” shall mean the Technical Bid and the Financial Bid submitted by the Bidder electronically at the prescribed web portal, in response to the e-bid document, in accordance with the terms and conditions hereof;

“**Bid Deadline**” shall mean the last date and time for submission of Bid in response to the e-bid document, and as may have been extended in accordance with the e-bid document;

“**Bidder**” shall mean a Bidding Company complying with the provisions of Companies Act, 1956;

“**Bidding Company**” shall refer to such single company that has submitted the Bid in accordance with the provisions of the e-bid document;

“**Bid Validity**” shall have the meaning ascribed to it in Clause 3.6

“**Consents, Clearances and Permits**” shall mean all authorizations, licenses, approvals, registrations, permits, waivers, privileges, acknowledgements, agreements, or concessions required to be obtained from or provided by any concerned authority for the purpose of installation of the generation plant or captive consumption of such generation;

“**Security Deposit/Performance Guarantee**” shall mean the bank guarantee to be provided from a scheduled commercial bank in India by the Selected Bidder to the UPNEDA in accordance with Clause 3.5 in the prescribed Format 8;

“**Earnest Money Deposit**” shall mean the unconditional and irrevocable bank guarantee of an amount to be calculated at the rate of Rs 45500, to be submitted along with the Bid by the Bidder pursuant to Clause 3.7.1 of this e-bid document, as prescribed in Format 7;

“**Electricity**” means the electrical energy in kilowatt hours;

“**Electricity Act 2003**” shall mean the Electricity Act, 2003 and any rules, amendments, regulation, notifications, guidelines or policies issued there under from time to time;

“**EPC**” shall mean engineering, procurement and construction of a plant or facility with obligation to meet minimum performance standards along with requisite warranties for the plant or facility;

“**Financial Bid**” shall mean the e-Bid, containing the Bidder’s Quoted Capital Cost in Part -B of the e-bid document;

“**Non-Financial Bid**” shall mean the e-Bid containing the documents as specified in Clause 3.2.1 of the E-BID DOCUMENT.

“**Plant**” shall mean rooftop solar photovoltaic power generation plants implemented on the individual site;

“**Primary Beneficiary**” shall mean UPERC whose building roof Plant shall be installed.

“**PV**” shall mean photovoltaic;

“**Eligibility Conditions**” shall mean the qualification requirements set forth in Clause 1.1

“**Quoted Capital Cost**” shall mean the capital cost quoted by the Bidder in accordance with the prescribed Format B and shall be construed to have considered the capital cost for Design, Supply, Installation, Testing and Commissioning of 70 KW Grid Connected Rooftop Solar Photovoltaic Power Plants including its Operation and Maintenance for five (5) years. The quoted capital cost shall also include development of necessary evacuation infrastructure and its Operation and Maintenance;

“**Rs. or ₹**” shall mean Indian rupees;

“**Solar Company**” shall mean the Selected Bidder who submits the Security deposit /Performance Guarantee and implements the rooftop solar photovoltaic power generation plant in accordance with the scope of work as elaborated in part 4;

“**Statutory Auditor**” shall mean the auditor of a company appointed under the provisions of the Companies Act, 1956 or under the provisions of any other applicable governing law;

“**UPERC**” means the Uttar Pradesh Electricity Regulatory Commission constituted under Section 82 of the Electricity Act 2003 for the State of Uttar Pradesh;

“**UP Electricity Grid Code**” or “**Grid Code**” or “**UPEGC**” shall mean the document notified by the UPERC describing the responsibilities for planning and operation of the power system in Uttar Pradesh in 2007 and as amended from time to time;

Covering Letter:

FROM:-

(Full name and address of the Bidder)

.....
.....

To:

The Director,

Uttar Pradesh New and Renewable Energy

Development Agency (UPNEDA)

Vibhuti Khand, Gomti Nagar, Lucknow- U. P.

Subject:-Offer in response to e-tender specification No: 01/UPNEDA-UPERC/Grid Connect
Rooftop/2017

Sir,

We hereby submit our offer in full compliance with terms & conditions of the above e-tender. A blank copy of the e-tender, duly signed on each page is also submitted as a proof of our acceptance of all specifications as well as terms/ Conditions.

We confirm that, we have the capability for supplying, installation, testing and commissioning of 70 KW Grid connected Rooftop Solar PV Power Plant with power evacuation system-including meters and other necessary infrastructures including 5 years Operation, Comprehensive warranty& maintenance of 70 KW capacitySolar Grid connected Rooftop PV Power Plants including power evacuation system in 4 months. (Supporting document in proof of capacity should be attached)**in UPERC Bhawan, District Lucknow in the State of Uttar Pradesh.** (Supporting document in proof of capacity should be attached)

The e-tender is to be uploaded in two separate files named Part-A for technical bid & Part-B for Financial Bid only.

(Signature of Bidder)
With Seal

3. Check list of Annexure

(The following information/documents are to be annexed and flagged by the Bidders along with the BID)

S.N.	Annexure No	Particulars	Yes/No, Flag No.
1.	Annexure-I (a) Annexure-I (b)	Details of Tender document fees (Demand Draft no, date, amount and bank name) Details of Earnest money (bank guarantee no. and date, (valid for four months)	
2.	Annexure-II a Annexure-II b	The Bidder should be Registered Company/Firm/ duly incorporated under the relevant laws of its jurisdiction(A copy of certificate of incorporation) having experience of Design, Supply, Installation, Testing, Commissioning of Rooftop Grid connected Solar PV Power Project of 50 KW capacity (on an individual or aggregate basis) (A copy of Commissioning certificate with proof of net metering and Work order / Contract / Agreement/ from the Client/Owner to be mandatorily enclosed)	
3.	Annexure-III III(a) III(b) III(c)	Following Test Certificates & Reports for components specified in technical bid <u>1.SPV Modules</u> a) IEC 61215 edition II/ IS 14286 for Crystalline Modules b) IEC 61730 Part 1 & 2 c) STC Performance Report –I V curve .	
		2.PCU cum Inverters	
	III (d)	MPPT and Protections - IEC 61683 /IS 61683 & IEC 60068-2(1,2,14,30) / equivalent BIS Standard,IEC 62116 - 2008 and UL 1741 for anti-islanding protection grid interconnectivity and IEC 62109-1 & 2 for electrical safety and parallel operations.	
5.	Annexure-IV	A copy of valid CST /State VAT/ TIN registration certificate	
6	Annexure-V	Overall Average Annual Turnover of the Company/Firm/ Corporation in the last three financial years of Rs13.65 lakhs(A summarized sheet of turnover of last three Financial Years certified by registered CA)	
7.	Annexure-VI	MNRE accredited Grid connected Rooftop Power Plant Channel Partner/ OR Credit Rating (from MNRE Accredited Rating Agency) of “SP 2C” and above	
8.	Annexure-VII	A summarized sheet of cumulative experience in executing contracts of Grid connected Rooftop Solar PV Power Plants certified by registered CA in format 4.	
9.	Annexure-VIII	Bidders Cumulative experience* in last three years (FY 2014-15,2015-16,2016-17) in supply and installation/commissioning of Grid connect Rooftop Solar photovoltaic Power Plants	
10.	Annexure-IX	Cumulative Experience* of the Bidder in executing contracts (Installed & commissioned) of Grid connected Rooftop Solar Power Plants: At least 25% of the tendered value	

11.	Annexure-X	The bidder has ISO 9001 certification.	
12.	Annexure-XI	The bidder has ISO 14001 certification.	
13.	Annexure-XII	Authorization letter of the Bidder, for the person representing his firm, that he is authorized to discuss and with specific mention of this e-tender.	
14	Annexure- XIII	Others XVIII(i). Affidavit from Firm has not been debarred or Blacklisted by any Government department or undertaking. XIX(ii). –Minimum Guaranteed Generation details. XIX(iii). -----	

* Please flag the annexure and write flag number in the box.

Note:- Bids received without supporting documents for the various requirements mentioned in the tender document may be rejected.

(Signature of Bidder)
With Seal

4. Particulars of e-tender

1.	e-tender no.	01/UPNEDA- UPERC/Grid- connect/Rooftop/2017
2.	Particulars of the work	Supply, Installation, Testing and Commissioning of 70 KW Grid Interactive Rooftop Solar Photovoltaic Power Plant and power evacuation system – including meters and other necessary infrastructures including 5 years Operation, Comprehensive Warranty and Maintenance of Grid Interactive Rooftop Solar Photovoltaic Power Plant and power evacuation system in UPERC Building in Lucknow in the State of Uttar Pradesh.
3.	Period of work	Within 4 months from the date of award of work.
4.	Last date and time of uploading of e-tender on NIC website	04-7-2017 upto 6.00 PM
5.	Period of validity of rates for acceptance	3 months from opening of financial bid
6.	Date and Time of opening of e-tender (Technical bid.)	05-7-2017 at 12.30 PM
7.	Date and Time of opening of e-tender (Financial bid.)	11-07-2017 at 1.00 PM
7.	Place of opening of e-tender	UPNEDA, Head Office, Vibhuti Khand, Gombi Nagar, Lucknow, Uttar Pradesh.

1. Bidders are advised to study the tender Document carefully. Submission of e-Bid against this tender shall be deemed to have been done after careful study and examination of the procedures, terms and conditions of the tender Document with full understanding of its implications.
2. The e-Bid prepared in accordance with the procedures enumerated in ITB Clause 15 of Section-I should be submitted through e-Procurement website <http://etender.up.nic.in>.
3. The e-Bids will be electronically opened in the presence of bidder's representatives, who choose to attend at the venue, date and time mentioned in the above table. An authority letter of bidder's representative will be required to be produced.
4. In the event of date specified for e-Bids opening being declared a holiday for UPNEDA's office then the due date for opening of e-Bids shall be the following working day at the appointed time and place.
5. All the required documents including Price Schedule/BOQ should be uploaded by the e-Bidder electronically in the PDF/XLS format. The required electronic documents for each document label of Technical (Fee details, Qualification details, e-Bid Form and Technical Specification details) schedules/packets can be clubbed together to make single different files for each label. All the enclosures should be scanned and uploaded with bid.
6. The companies/firms who are registered at e-Procurement portal for e-tendering with U.P. Electronics Corporation Ltd. (UPLC), 10, Ashok Marg, Lucknow (UP) would only be eligible for participating in this e-tender. All companies/firms who have not registered themselves with UPLC for e-tendering till date can get their registration done. The companies/firms may contact the UPLC officials on phone numbers 0522-2286809, 0522-2288750 (O) 0522-4130303 (Extn: 303, 304 & 307), for their Registration/Digital Signature Certificate related queries.

(Signature of Bidder)
With Seal

5. GENERAL PARTICULARS OF BIDDER

1	Name of Bidder	
2	Postal Address	
3	Mobile no.	
4	Telephone, Telex, Fax No	
5	E-mail	
6	Web site	
7	Name, designation and Mobile Phone No. of the representative of the Bidder to whom all references shall be made	
9	Name and address of the Indian/foreign Collaboration if any	
10	Have anything/extra other than price of items (as mentioned in price Schedule) been written in the price schedule.	
11	Have the Bidder to pay arrears of income tax? If yes up to what amount?	
12	Have the Bidder ever been debarred By any Govt. Deptt./ Undertaking for undertaking any work? (Affidavit to be submitted)	
14	Details of offer (please mention number of pages in the hard copy)	
15	Reference of any other information attached by the tenderer (please Mention no. of pages & no. of drawings)	

(Signature of Bidder)
with Seal

6. DECLARATION BY THE BIDDER

(Regarding e-tender 01/UPNEDA-UPERC/Grid Connect/Rooftop/2017)

We _____ (hereinafter referred to as the Bidder) being desirous of e-tendering for the work under the above mentioned e-tender and having fully understood the nature of the work and having carefully noted all the terms and conditions, specifications etc. as mentioned in the e-tender document,

DO HEREBY DECLARE THAT

1. The Bidder is fully aware of all the requirements of the e-tender document and agrees with all provisions of the e-tender document.
2. The Bidder is capable of executing and completing the work as required in the e-tender.
3. The Bidder accepts all risks and responsibilities directly or indirectly connected with the performance of the e-tender.
4. The Bidder has no collusion with other Bidders, any employee of UPNEDA or with any other person or firm in the preparation of the bid.
5. The Bidder has not been influenced by any statement or promises of UPNEDA or any of its employees, but only by the e-tender document.
6. The Bidder is financially solvent and sound to execute the work.
7. The Bidder is sufficiently experienced and competent to perform the contract to the satisfaction of UPNEDA.
8. The information and the statements submitted with the e-tender are true.
9. The Bidder is familiar with all general and special laws, acts, ordinances, rules and regulations of the Municipal, District, State and Central Government that may affect the work, its performance or personnel employed therein.
10. The Bidder has not been debarred from similar type of work by UPNEDA and or any Government undertaking/ Department.
11. This offer shall remain valid for acceptance for 12 Months from the date of opening of financial bid of e-tender.
12. The Bidder gives the assurance to execute the e-tendered work as per specifications terms and conditions.
13. The Bidder confirms the capability to Supply, Install, Testing and Commissioning including 5 years Operation, Comprehensive Warranty and Maintenance of 70 KW aggregate Capacity Grid Interactive Rooftop Solar PV Power Plants and power evacuation system – including meters and other necessary infrastructures in four months.

(Signature of Bidder)
with SEAL

PART-2 : INSTRUCTION TO BIDDERS

SECTION 1: THE TENDER DOCUMENT

1.1 CONTENT OF e-tender DOCUMENT

1.1.1 The e-tender procedure and contract terms are prescribed in the e-tender Documents. In addition to the e-tender Notice the Bidding documents include.

PART A

Part - 1

- 1 e-tender Notice
- 2 Covering Letter
- 3 Checklist of Annexures
- 4 Particulars of e-tender
- 5 General Particulars of Bidder
- 6 Declaration by Bidder

Part – 2 : Instruction to Bidders

- | | |
|------------|-----------------------------------|
| Section -1 | Contents of e-tender document |
| Section-2 | Bidder to inform fully |
| Section -3 | Eligibility condition |
| Section-4 | Preparation of e-tender |
| Section-5 | Submission of e-tender |
| Section -6 | e-tender opening and evaluation |
| Section-7 | Procedure for Finalisation of Bid |

Part – 3 : General Condition of Contract

Part – 4 : Scope of Work & Technical specifications

Part – 5 : Details of Warranty

Part – 6 : Technical Bid

PART B

Financial Bid

The Bidder is expected to examine all instructions, forms, terms and specifications as mentioned in the e-tender document. Failure to furnish all information required by the e-tender documents or submission of a bid not substantially responsive to the Bid Document in every respect will be at the Bidder's risk and is likely to result in out-right rejection of the e-tender .

PROJECT

UPNEDA intends to install aggregate 70 KW capacity Grid connected Rooftop Solar PV Power Plants in upcoming building of UPERC, in Vibhuthi Khand, Gomtinagar, District Lucknow (here in after 'Project' to harness green energy. The project is in accordance with the approval of UPERC .The proposed solar power project turnkey contract shall include construction, Supply, Installation, Testing and Commissioning including 5 years Operation, Comprehensive Warranty and Maintenance

of 70 KW aggregate Capacity Grid Interactive Rooftop Solar PV Power Plants and power evacuation system – including meters and other necessary infrastructures in four months with demonstrated guaranteed performance of total aggregate capacity 70 KW Grid connected Rooftop Solar Photovoltaic Power Plant. The total proposed capacity will be spread out on the Rooftop of building of UPERC located in Gomtinagar, Lucknow in Uttar Pradesh.

The overall responsibility of complete “Scope of Works” as mentioned in this Tender document as per the specification mentioned in the section technical specifications, and is required for successful installation, commissioning and operation of the project in all respect including those which are not mentioned explicitly in this document, rests with the Bidder.

The Bidder is expected to examine all instructions, forms, terms and specifications as mentioned in the e-tender document. Failure to furnish all information required by the e-tender documents or submission of a bid not substantially responsive to the Bid Document in every respect will be at the Bidder's risk and is likely to result in out-right rejection of the e-tender.

1.2 LOCAL CONDITIONS

The Bidder is advised to visit and examine the site conditions, traffic, location, surroundings, climate, availability of power, water and other utilities for construction, access to site, handling and storage of materials, weather and insolation data, applicable laws and regulations, and obtain for itself on its own responsibility all information, as per their understanding, may be necessary for preparing the Bid and entering into the Contract Agreement. All the expenses of visiting the Site and its associated costs shall be borne by the Bidder.

1.3 CLARIFICATION:

A prospective Bidder requiring any clarification of the e-tender Documents may contact UPNEDA in writing through mail or by Fax at the UPNEDA's mailing address indicated in the Invitation for e-tender by 20/6/2017

.All are requested to remain updated with the website. No separate reply/ intimation will be given elsewhere. Verbal clarifications and information's given by the UPNEDA or its employees or its representatives shall not be in any way entertained

1.1.1. The UPNEDA is not under any obligation to entertain or respond to suggestions made or to incorporate modifications sought for.

Enquiries/clarifications may be sought by the Bidder from:

Director,
Uttar Pradesh New & Renewable Energy Development Agency,
Vibhuti Khand, Gomti Nagar, Lucknow
Phone: 0522-2720652
Fax: 0522-2720779, 2720829
Email: compneda@rediffmail.com
Website: www.upneda.org.in

1.4 AMENDMENT OF e-tender DOCUMENTS

At any time prior to the submission of the e-tender the UPNEDA may for any reason, whether at its own initiative or in response to a clarification requested by the Bidder, modify the e-tender documents by amendments. Such amendments shall be made available on websites: www.upneda.org.in.; <http://etender.up.nic.in> and www.uplc.in. All are requested to remain updated with the website. No separate reply/ intimation will be given elsewhere.

1.5 The Bidders should particularly acquaint themselves with the technical requirements of integrating the power plant with the distribution system of the respective distribution licensee of the State, the regulations specified by Central Electricity Authority, grid operation as specified in the, the Uttar Pradesh Grid Code and the Uttar Pradesh Distribution Code.

1.6 In their own interest, the Bidders are requested to familiarize themselves with the Electricity Act, 2003, Regulatory Framework specified by the Uttar Pradesh Electricity Regulatory Commission, building bye laws prevalent in Uttar Pradesh and any other local laws affecting the implementation of grid connected rooftop solar photovoltaic power plants and all other related acts, laws, rules and regulations prevalent in India, as amended from time to time. The UPNEDA shall not entertain any request for clarifications from the Bidders regarding the same. The Bidder undertakes and agrees that, before submission of its Bid; all such factors as generally stated above, have been fully investigated and considered while submitting the Bid.

1.7 The Bidder shall familiarize itself with the procedures and time frames required to obtain all the Consents, Clearances and Permits required for the supply of power to the Procurer. The Bidder shall arrange all the Consents, Clearances and Permits required for setting up of the Rooftop Power Plants. It should also arrange for the grid interconnection of the plant as well as commissioning certificate from UPERC authorities

SECTION 2: ELIGIBILITY CONDITIONS

1. Minimum Eligibility Conditions:

- The Bidder should be Registered Company/Firm/ duly incorporated under the relevant laws of its jurisdiction (A copy of certificate of incorporation) having experience of Design, Supply, Installation, Testing, Commissioning of Rooftop Grid connected Solar PV Power Project of minimum 50 KW capacity or more (on an individual basis) (A copy of Commissioning certificate with proof of net metering and Work order / Contract / Agreement/ from the Client/Owner to be mandatorily enclosed)
- Bidder shall also provide information of undertaking the operation & maintenance of solar photovoltaic power generating plants (including ground mounted and/or rooftop power plants, grid connected and/or off-grid).
- The bidder should have last three years(i.e. FY 2014-15, 2015-16, and 2016-17) experience in executing contract of Solar Photovoltaic Power Plants (Installed and commissioned).
- Cumulative Experience* of the Bidder in executing contracts of Solar Photovoltaic Systems/Power plants(Installed & Commissioned) should be at least 25% of the tender value.
- The Bidder should have valid CST /State VAT/ TIN registration certificate. A copy of which should be enclosed.
- Overall Average Annual Turnover of the Company/Firm/ Corporation in the last three financial years should be at least Rs 13.65 lakhs (Rs thirteen lakhs and sixty five thousand only) (This must be the individual Company's turnover and not that of any group of Companies).
(A summarized sheet of turnover of last three years with average turnover certified by registered CA should be compulsorily enclosed)

SECTION 3: PREPARATION OF e-tender

3.1 LANGUAGE OF BID AND MEASURE

3.1.1 LANGUAGE OF BID AND MEASURE

3.1.1 The e-tender prepared by the Bidder and all correspondence and documents relating to the bid exchanged by the Bidder and UPNEDA shall be written in the English provided that any printed literature furnished by the Bidder may be written in another language so long as accompanied by an English translation of its pertinent passages in which case, for purpose of interpretation units of measurement shall be MKS system.

3.2 DOCUMENTS COMPRISING THE BID

3.2.1 The e-tender prepared by the Bidder shall comprise the following components

- (a) Covering letter as provided in e-tender document.
- (b) General particulars of bidder, as provided in e-tender document.
- (c) Declaration by The Bidder, as provided in e-tender document
- (d) Details for Past Experience meeting Qualification Requirement in the prescribed Format 4 With Documentary evidence establishing that the bidder is eligible to Tender and is qualified to perform the contract if its tender is accepted.
- (e) Check list of Annexure as provided in e-tender document
- (f) Minimum Guaranteed Generation in the prescribed Format 5
- (g) A blank copy of the in e-tender document signed on each page, as a confirmation by the Bidder to accept all technical specifications / commercial conditions along with all necessary enclosures.
- (h) Authorization letter of the Bidder, for the person representing his Company/Firm/ Corporation, that he is authorized to discuss and with specific mention of this e-tender

3.3 BID PRICE

i. The Bidder shall indicate prices on the appropriate financial bid schedule.

3.3.2 DUTIES AND TAXES

The price quoted should include operation & maintenance fee for 5 years shall be submitted in prescribed format all taxes and duties, custom duty, excise duty, service tax, sales tax, C.S.T., local taxes, Trade Tax/VAT if applicable , Income Tax, Surcharge on income tax etc. if any. A Bidder shall be entirely responsible for all taxes, duties, license fees, etc. All taxes payable as per Government income tax & service tax norms will be payable by the Bidder. TDS will be deducted from the payment of the Bidder as per the prevalent laws and rules of Government of India and Government of Uttar Pradesh in this regard if any.

3.4 BID CURRENCIES

3.4.1 Prices shall be quoted in Indian Rupees (INR) only

3.5 **SECURITY DEPOSIT/ PERFORMANCE GUARANTEE:**

3.5.1 The successful Bidders, who execute the agreement with UPNEDA for the work, shall have to furnish a security amount equivalent to 10% of total value of the contract in the form of Bank Guarantee valid for a period of 18 months from the date of execution of agreement. The bank guarantee may be issued by a nationalized bank or State Bank of India or its subsidiary bank. Bank Guarantee shall be in favour of "Director, UPNEDA". The aforesaid Bank Guarantee shall be furnished prior to the execution of agreement in format enclosed.

3.6 **PERIOD OF VALIDITY OF e-tender**

3.6.1 Validity of the offer should be 3 months from the date of opening of the financial bid of the e-tenders. Without this validity the e-tenders will be rejected.

3.6.2 In exceptional circumstances; the UPNEDA will solicit the Bidder's consent to an extension of the period of validity. The request and the response there of, shall be made in writing. The contract performance security provided under clause 3.5.1 above shall also be suitably extended.

3.7 **BID SECURITY (Earnest Money)**

3.7.1 The bidder shall furnish, as part of its bid, bid security of 1% (one percent) of tendered value i.e. Rs. 45500 (forty five thousand and five hundred only) in the form of Bank guarantee issued by a nationalized bank, or State Bank of India and its subsidiary banks. The bank guarantee shall be valid for a period of 4 (Four) months from the opening of technical bid. Format enclosed.

3.7.2 Any bid not secured with the tender fee and earnest money will be rejected by the UPNEDA as non responsive.

3.7.3 No Interest shall be payable on the amount of earnest money. The same will be released after the e-tenders have been decided, to those Bidders who fail to get the contract.

3.7.4 The e-tender security (earnest money) may be forfeited:

a) If a Tenderer withdraws its e-tender during the period of e-tender validity specified by the Bidder in the e-tender.

b) If the successful Bidder fails to sign the tripartite contract within stipulated period.

3.7.5; EMD of successful bidder shall only be released after signing of agreement and submission of 10% Security bank guarantee.

3.8 **FORMAT AND SIGNING OF e-tender**

3.8.1 The bid must contain the name, residence and places of business of the persons making the e-tender and must be signed and sealed by the Bidder with his usual signature. The name and designations of all persons signing should be typed or printed below the signature.

3.8.2 e-tender by corporation/ company must be signed with the legal name of the corporation/ company/firm by the 'President', Managing director or by the 'Secretary' or other designation or a person duly authorized

3.8.3 The original copy of the e-tender shall be typed or written in indelible ink and shall be signed by the Bidder or a person duly authorized to bid and bidder to the contract. The letter of

authorization shall be submitted along with power-of-attorney. All the pages of the bid shall be initialed by the person or persons signing the e-tender.

3.8.4 The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder in which case such corrections shall be initialed by the person or persons signing the e-tender.

(Signature of Bidder)
with SEAL

SECTION: 4: UPLOADING OF e-tender

- 4.1 Uploading of e-tender: The bid shall be uploaded online as per guide lines of U.P. Electronics Corporation Ltd. (UPLC), 10, Ashok Marg, Lucknow (UP).
- 4.1.1 The tender must be complete in all technical and commercial respect and should contain requisite certificate, drawings, informative literature etc. as required in the specification.
- 4.1.2 First part (**PART-A**) should contain technical specification, brochure literature etc. All parts of tender documents except financial bid should be uploaded as per e-procurement mode in due date and time. Scanned copy of Requisite earnest money in the form of Bank Guarantee should be enclosed.
- 4.1.3 The Bidder should submit price bid in Second part. Second part (**PART-B**) should contain financial bid only should be uploaded as per e-procurement mode in due date and time. Anything in regard of financial condition, payment terms, rebate etc. mentioned in financial bid may make the tender invalid. Therefore, it is in the interest of the Bidder not to write anything extra in part-II except price.
- 4.1.4 The original copy of uploaded document i.e. First part (**Part-1**) is to be submitted by Post /courier/by hand to UPNEDA HQ before opening of Technical bid.However for purpose of evaluation uploaded documents will be considered only.
- 4.2 EXPENSES OF AGREEMENT: A formal agreement for execution operation and maintenance of project shall be entered into between UPNEDA and the contractor/ bidder for the proper fulfillment of the contract. The expenses of completing and stamping of the agreement shall be paid by the successful bidder.
- 4.3 DEADLINE FOR SUBMISSION OF BIDS: Bids must be uploaded by the renderer in the date; time and address specified in the e-tender notice/ tender documents.

(Signature of Bidder)
with SEAL

SECTION 5: e-tender OPENING AND EVALUATION

5.1 OPENING OF e-tender

The procedure of opening of the e-tender shall be as under:

- 5.1.1 First part (PART-A) uploaded having e-tender specification no. and super scribed as “**Technical bid**” shall be opened at the time and date mentioned in the e-tender notice by UPNEDA’s representatives in the presence of Bidders, who choose to be present.
- 5.1.2 Second part (PART-B) containing Financial Bid shall be opened (after obtaining clarifications and establishing technical suitability of the offer) as per schedule. Second part of only those Bidders shall be opened whose first part (PART-A) shall be found commercially clear and technically suitable.

CLARIFICATION OF e-tender

- 5.2. To assist in the examination, evaluation and comparison of bids the UPNEDA may at its discretion ask the bidder for a clarification of its bid. The request for clarification and the response shall be in writing.
- 5.3 UPNEDA reserves the right to interpret the Bid submitted by the Bidder in accordance with the provisions of this document and make its own judgment regarding the interpretation of the same. In this regard UPNEDA shall have no liability towards any Bidder and no Bidder shall have any recourse to UPNEDA with respect to the selection process. UPNEDA shall evaluate the Bids using the evaluation process specified in this document or as amended, at its sole discretion. UPNEDA’s decision in this regard shall be final and binding on the Bidders.

Signature of Bidder
with seal

SECTION-6: PROCEDURE FOR FINALIZATION OF BID

6.0 The Procedure for Finalization of BID would be as follows:

6.1 Finalization of BID:

- i First the Technical bids shall be opened and evaluated.
- ii Then the price bid of technically qualified bidders shall be opened.
- iii The lowest rate (i.e. L-1) shall be the party to be awarded the contract.

iv After work order is placed for work, should be executed within the time schedule stipulated in work order. In case of delay (for any reason other than due to Force Majeure conditions or any extension thereof granted to him by UPNEDA) a penalty equal to 1.0% of the price of the unperformed services for each week (For the purposes of calculation of delay, part of week shall be treated as week) of delay until actual performance up to a maximum deduction of 10% of the delayed services.

6.2 If required UPNEDA reserves the right to negotiate with (lowest) L-1 bidder before finalization of the tender.

6.3 UPNEDA reserves the right to accept any bid and to reject any or all bids.

6.4 NOTIFICATION OF AWARDING THE CONTRACT:

List of successful Bidder for contract shall be displayed on UPNEDA's website and shall be intimated in writing to the contractor.

6.5 CONTRACT

Before execution of the work, a contract agreement for execution of the work shall be signed by the Bidder with UPNEDA within 15 days of communication from UPNEDA. In case agreement is not executed within the stipulated time, the earnest money will be forfeited.

Signature of Bidder
with seal

PART 3 : GENERAL CONDITIONS OF CONTRACT

1.0 In the deed of contract unless the context otherwise requires:-

DEFINITIONS

- 1.2. "UPNEDA" shall mean The Director of UPNEDA or his representative and shall also include its successors in interest and assignees. The "Contractor" shall mean (successful bidder) i.e. the person whose e-tender has been accepted by UPNEDA and shall include his legal representatives and successors in interest.
- 1.3 The agreement shall be a on turn-key basis for Supply, Installation, Testing and Commissioning of 70 KW Grid Interactive Rooftop Solar Photovoltaic Power Plant and power evacuation system – including meters and other necessary infrastructures including 5 years Operation, Comprehensive Warranty and Maintenance of Grid Interactive Rooftop Solar Photovoltaic Power Plant and power evacuation system in UPERC Building in Lucknow in the State of Uttar Pradesh. The work shall be completed within four months from the date of placement of work order. However "UPNEDA" may in case of urgency ask the bidder to complete the work earlier, with the mutual consent of the contractor/ bidder. In case the contractor/ bidder fails to execute the said work within stipulated time, "UPNEDA" will be at liberty to get the work executed from the open market without calling any tender/e-tender and without any notice to the contractor/ bidder, at the risk and cost of the contractor/ bidder. Any additional cost incurred by "UPNEDA" shall be recovered from the contractor/ bidder. If the cost of executing the work as aforesaid shall exceed the balance due to the contractor/ bidder, and the contractor/ bidder fails to make good the additional cost, "UPNEDA" may recover it from the contractor/ bidders' pending claims against any work in "UPNEDA" or in any lawful manner.
- 1.4 That on the request of the contractor/ bidder and also in the interest of the organization the "UPNEDA" is authorized to extend the validity of the agreement, subject to that the request of the contractor/ bidder is received before the expiry of the agreement period, or any extended period granted to the contractor/ bidder. Maximum period of extension shall be 2 months on the same terms and conditions as contained in this agreement.
- 1.5 The agreement shall be deemed to be extended till the date of completion of project subject to the completion period as provided in the clause 1.3.
- 1.6 It will be the sole responsibility of the contractor/ bidder, to execute work order placed as per time schedule, and to ensure quality parameters, specifications and other requirements provided in the e-tender document and as per agreement.

2 LIQUIDATED DAMAGES

- 2.1 If the contractor/ bidder fails to perform the services within the time periods specified in the contract (In case of delay for any reason other than due to Force Majeure conditions or any extension thereof granted to him by UPNEDA) the "UPNEDA" shall without prejudice to its other remedies under the contract deduct from the contract price as liquidated damage, a sum equivalent to 1.0% of the price of the unperformed services for each week (For the purposes as calculation of delay, part of week shall be treated as week) of delay until actual performance up to a maximum deduction of 10% of the delayed services. Once the maximum is reached, the

“UPNEDA” may consider termination of the contract. In the case of violation of contract, UPNEDA may confiscate pending payments/ dues of the contractor/ bidder assigning specific reasons and shall also have the power to debar/ blacklist the contractor/ bidder in similar circumstances. UPNEDA may also invoke performance/security bank guarantee of 10%.

3 The contractor/ bidder shall have to comply with all the rules, regulations, laws and by-laws for the time being in force and the instructions if any, of the organization, in whose premises the work has to be done. “UPNEDA” shall have no liability in this regard.

4 **FORCE MAJEURE**

4.1 Notwithstanding the provisions of clauses contained in this deed; the contractor/ bidder shall not be liable for forfeiture of its performance security, liquidated damages, termination for default, if he is unable to fulfil his obligation under this deed due to event of force majeure circumstances.

4.2 For purpose of this clause, "Force majeure" means an event beyond the control of the contractor/ bidder and not involving the contractor/ bidder's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of Government either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes

4.3 However, If a force majeure situation arises, the contractor/ bidder shall immediately notify the “UPNEDA” in writing. The decision of the competent authority of UPNEDA in above conditions shall be final.

5 The High court of Judicature at Allahabad and Courts subordinate thereto, at Lucknow, shall alone have jurisdictions to the exclusion of all other courts.

6 The contractor/ bidder shall not, without the consent in writing of “UPNEDA”, transfer, assign or sublet the work under the contract or any substantial part thereof to any other party.

7 “UPNEDA” shall have at all reasonable time access to the works being carried out by the contractor/ bidder under the contract. All the work shall be carried out by the contractor/bidder to the satisfaction of “UPNEDA”.

8 If any question, dispute or difference what so ever shall arises between “UPNEDA” and the contractor/ bidder, in the connection with the agreement except as to matters, the decisions for which have been specifically provided, either party may forthwith give to the other notice in writing of existence of such question, dispute or difference and the same shall be referred to the sole arbitration of the Principal Secretary/Secretary of the Uttar Pradesh or a person nominated by him not below the rank of Secretary. This reference shall be governed by the Indian Arbitration and Conciliation Act 1996, and the rules made there under. The award in such arbitration shall be final and binding on both the parties. Work under the agreement shall be continuing during the arbitration proceedings unless the “UPNEDA” or the arbitrator directs otherwise

9 “UPNEDA” may at any time by notice in writing to the contractor/ bidder either stops the work all together or reduces or cut it down. If the work is stopped all together, the contractor/bidder will only be paid for work done and expenses distinctly incurred by him as on preparation or the execution of the work up to the date on which such notice is received by him. Such expenses shall be assessed by “UPNEDA”, whose decision shall be final and bidding on the contractor/ bidder. If the work is cut down the contractor/ bidder will not be paid any compensation whatsoever for the loss or profit which he might have made if he had been allowed to complete all the work included in the contract.

10 INSPECTION AND TESTS

10.1 The following inspection procedures and tests are required by the “UPNEDA” in the presence of “UPNEDA”'s representative if so desired by “UPNEDA”.

10.2 The “UPNEDA” or its representative shall have the right to inspect and / or to test the goods to confirm their conformity to the contract. The special conditions of contract and/ or the Technical specifications shall specify what inspections and tests the “UPNEDA” required.

10.3 INSPECTION AT WORKS.

10.3.1 The “UPNEDA”, his duly authorized representative shall have at all reasonable times access to the contractor/ bidders premises or works and shall have the power at all reasonable time to inspect and examine the materials and workmanship of the works during its manufacture.

10.3.2 The contractor/ bidder shall give the “UPNEDA”, 15 day's written notice of any material being ready for testing. It shall be mandatory that such notice should reach “UPNEDA” within 30 days of placement of work order. Such tests shall be on the contractor/ bidder's accounts/ expenses except for the expenses of the inspector. “UPNEDA” reserves the full rights, to waive off inspection of material.

10.3.3 The contractor/ bidder are required to get the entire lot of the ordered material inspected at one time, before the supply of the materials. In case the contractor/ bidder fails to get the entire lot inspected at one time, the total expenses of the further inspection will be borne by the supplier/contractor/ bidder.

10.3.4 UPNEDA will bear the inspector cost at only one manufacturing plant. If a component is produced in more than one location, then the cost of positioning the inspection in these second and subsequent plants would be borne by the successful Bidder at their cost.

10.3.5 The inspection by “UPNEDA” and issue of dispatch instruction there on shall in no way limit the liabilities and responsibilities of the contractor/ bidder in respect of the agreed quality assurance programme forming a part of the contract.

11. WARRANTY

11.1 The Contractor/ Bidder shall be solely responsible for commencement to completion of the work. It shall be responsible for any loss or damage happens at the work place or during the erection of the plant, not already approved by the UPNEDA, and shall, at its own cost, arrange for repair or compensation.

i The Contractor/ Bidder shall warranty that the equipment used in installing the plant are new and unused.

- iii The Contractor/ Bidder shall provide warranty, of the complete power plant towards any defect in design of the plant, equipment used including spare parts for a period of five (5) years from the date of Commissioning of the plant. The Warranty period shall be 25 Years for the PV modules.
- iv Any defect noticed in the power plant during the period of five (5) years from the date of Commissioning of the power plant shall be rectified/replaced by the Contractor/ Bidder on its own motion or on due intimation by the UPNEDA or by the owner of the plant, as the case may be, free of charges.
- v The replacement of the defective component at the cost of Contractor/ Bidder shall be made with similar and/or equivalent make. The replaced component shall not, in any situation, reduce the performance of the plant.
- vi The Contractor/ Bidder shall commence the replacement/rectification of the defect within seven (7) days from the date of identification of such defect and shall rectify the defect within mutually agreed time, failure in doing so shall enable the UPNEDA to rectify the defect at the expense of Contractor/ Bidder.
- vii The Contractor/ Bidder shall provide warranty certificate along with the Commissioning report to the UPNEDA
- viii Since the maintenance of the system may also be taken up by the contractor/ bidder after expiry of 05 years of warranty period if the end user/”UPNEDA” so desires, the contractor/bidder shall take up annual maintenance of the installed system.
- ix The contractor/ bidder shall maintain the system under annual maintenance contract with the end user.
- 15. The contractor/ bidder shall furnish to UPNEDA ,
 - i The instruction manuals at the time of submission of commissioning certificate for the project. The manual so prepared shall include all diagrams and instructions to operate and maintain the whole plant.
 - ii Individual copies of the approval of the Electrical Inspectorate or concerned officer of the respective distribution licensee for interconnection of plant with the distribution system.
 - iii Hand-Over Agreement: The Contractor/ bidder shall hand-over the project to the user after its successful commissioning in excellent condition. At the time of handing over all the performance tests of the major equipment shall be demonstrated to the user and UPNEDA to ensure Generation from the solar photovoltaic power plant. While handing over the Solar Power Plants the Contractor/ bidder shall also hand over all technical documents, literature, instruction manuals, lists of spare part & tools & tackles. The Contractor/ bidder shall enter into an agreement for handing over the Solar Power Plant after the commissioning.
- iv The Plant shall be deemed to be commissioned after 120 hours of continuous generation of electricity
- 16. The contractor/ bidder shall not display the photographs of the work and not take advantage through publicity of the work without written permission of “UPNEDA”.
- 17. **PATENT RIGHT AND ROYALTIES.**
The Contractor/ bidder shall indemnify the “UPNEDA” against all third party claims of Infringement of patent, royalty's trademark or industrial design rights arising from use to the goods or any part thereof.

18. PACKING FORWARDING

18.1 The Contractor shall be responsible for securely protecting and packing the plant & equipment as per prescribed standards in force to withstand the journey and ensuring safety of materials and also arrival of materials at destination in original condition.

18.2 In order to import any items, associated with the Solar PV Power Project, from abroad or from any other state in India, Contractor shall have to arrange any clearance, permission, if required at his own risk, from any Government (Government of State & Government of India) controlled organization for transportation of materials from manufacturing shop to delivery at Site. Necessary certificates if so required shall be arranged by the Contractor on the time.

19. DEMURRAGE WHARF AGE, ETC

All demurrage, wharf age and other expenses incurred due to delayed clearance of the material or any other reason shall be to the account of the contractor/ bidder.

20. INSURANCE

20.1 During the Contract period all insurance related expenses shall be borne by the Contractor. The goods supplied under the Contract shall be fully insured against the loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.

20.2 In case of any loss or damage or pilferage or theft or fire accident or combination of the said incidents etc. under the coverage of insurance, the Contractor shall lodge the claim as per rules of insurance. Any FIR required to be lodged to local Police Station shall be the responsibility of the Contractor.

20.3 The Contractor shall arrange to supply/rectify/recover the materials even if the claim is unsettled for timely completion of the Project. The final financial settlement with the insurance company shall be rested upon the Contractor.

20.4 Acts as applicable during operation of Project for covering risk against any mishap to its workmen.

20.5 The UPNEDA will not be responsible for any such loss or mishap. All other insurance like, Contractor All Risk, Erection All Risk, insurance against theft and acts of GOD, as required for the construction and O&M of the plant and to indemnify the UPNEDA/equipment/ material and resources shall be borne by the contractor. Fire insurance is to be arranged by the Contractor up to the five years of O&M of the Contract

21. TRANSPORTATION

The contractor/ bidder is required under the contract to deliver the goods to the site. Transportation, storage, safety and security of the supplied material, issuance of road permit etc. shall be the sole responsibility of the contractor/bidder.

22. TERMINATION FOR INSOLVENCY

“UPNEDA” may at any time terminate the contract by giving written notice to the contractor/bidder without compensation to the contractor/ bidder, if it becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the “UPNEDA”.

23. TERMINATION FOR CONVENIENCE

The “UPNEDA”, may by written notice sent to the contractor/ bidder, terminate the contract, in whole or in part at any time for its convenience. The notice of termination shall specify that termination is for the purchaser’s convenience in the interest of “UPNEDA”.

24. APPLICABLE LAW

The contractor/ bidder shall be interpreted in accordance with the laws of the purchaser’s country i.e. India. The station of “UPNEDA” Headquarter shall have exclusive jurisdiction in all matters arising under this contract.

25. NOTICE

25.1 Any notice given by one party to the other pursuant to the contract shall be sent in writing or by telegram or telex/ cable or Email and confirmed in writing to the address specified for that purpose in the special condition of contract.

25.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.

26. TAXES DUTIES AND INSURANCE:

The price quoted should include all taxes, duties and Insurance expenditure, service tax, sales tax, C.S.T., local taxes, Trade Tax/VAT, Income Tax, Surcharge on income tax etc. if any. A contractor/ bidder shall be entirely responsible for all taxes, duties, license fees, etc. All taxes payable as per Government income tax & service tax norms will be payable by the contractor/ bidder. If any new tax/duty is levied during the contract period the same will be borne by the contractor exclusively. TDS will be deducted from the payment of the contractor/ bidder as per the prevalent laws and rules of Government of India and Government of the Uttar Pradesh in this regard.

27. COMPLIANCE WITH LABOUR REGULATIONS:

During continuance of the Contract, the Contractor and his sub contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State Government or Central Government or local authority and any other labour law (including rules), regulations, byelaws that may be passed or notification that may be issued under any labour law in future either by the State Government or the Central Government or the local authority

28. STATUTORY RESPONSIBILITY

a) The entire responsibility and risk relating towards the workforce working at the Site, and compliance of different statutory regulations like Workman Compensation Act, Employees’ State Insurance Corporation (ESIC), Factory Act 1948, Contract Labour Regulation, and Abolition Act 1970, Shop and Establishment Act 1948, and other Statutory regulatory bodies shall solely lie with the Contractor/ Bidder(s)

b). The Contractor/ Bidder(s) shall also be solely responsible for payment of wages, provident fund, bonus, retrenchment compensation leave, etc. applicable as per various statutory regulations to their entire workforce,

c)The following Statutory Clearances shall be obtained by the / Bidder(s) wherever applicable:

i Electrical System approval (Chief Electrical Inspector)

ii All equipment, accessories, materials, civil construction & erection works should comply with statutory requirements, IS and required and highlighted IEC standards.

iii Statutory requirements for working at the Site like labour registration, workman compensation policy, ESIC etc. to be complied with by the vendor before deployment of resources at the Site.

29 OTHERS:

29.1 I-V curve of the each module technical details such as Voc, Isc, , FF, cell efficiency and Pmax etc shall be supplied along-with each consignment and copy should be sent to “UPNEDA” HQ for records.

29.2 The Contractor/ bidder in consultation with concerned Project Officer of “UPNEDA” will conduct training programme for users, focusing on main features, operation and maintenance of the systems.

29.3 The Contractor/ bidder shall continue to provide spare parts after the expiry of warranty period at the users cost. If the contractor/ bidder fail to continue to supply spare parts and services to users “UPNEDA” shall take appropriate action against the Contractor/ bidder.

29.4 It shall be the sole responsibility of the contractor/ bidder to get verified the quality & quantity of the supplied material at the site of delivery.

30.0 POST COMMISSIONING ACTIVITIES

30.1 On completion of work, the contractor/ bidder shall submit following documents related to the execution of contract and implementation of rooftop solar photovoltaic power plants to User (UPERC)

- Detailed project report including layout and drawings of the plant
- All the consent, clearance and approvals
- Testing Certificate
- Plant charging/ Commissioning certificate
- Agreement / memorandum signed with distribution licensee for Interconnection with the distribution system

31. PAYMENTS:

The payments shall be made by the user (Uttar Pradesh Electricity Regulatory Commission) as per the following terms and conditions:

i) 50% of the ordered value after the supply of the complete system at site and duly certified by the UPERC/concerned district officer of UPNEDA as per the technical specification and terms and conditions specified in the contract.

ii. 35 % of the ordered value after installation and commissioning of the system which will include Grid connectivity along-with the Handing over certificate, indicating bill of material and successful commissioning duly countersigned by the end user.

iii) The balance 15% payment to be released @3% at the end of each year for 5 years, on satisfactory performance .However, this amount may be released against the Bank Guarantee of equal amount valid for the period of 66months submitted to user .

32 In case of any ambiguity in interpretation of any of the provisions of the tender, the decision of "UPNEDA" shall be final.

(Signature of Bidder)
with seal

PART -4

SCOPE OF WORK AND TECHNICAL SPECIFICATIONS

SCOPE OF WORK

The Bidder shall be obligated to perform the following Scope of Work, but not limited to, in relation to the development of the Grid connected Rooftop Solar power plant.

SCOPE OF WORK

1- ERECTION AND COMMISSIONING

A. Supply, installation, testing and commission aggregate capacity 70 KW grid connected roof mounted solar photovoltaic power plants spread out on the roof of UP Electricity Regulatory Commission (UPERC) which includes, but is not limited to the following:

- a) Solar PV modules
- b) Mounting frames, structures, array foundation (grouting on terrace), earthing grid design, and module inter-connection
- c) All System Junction boxes
- d) Power Conditioning Units (PCU) with monitoring
- e) MPPT – Max power point tracking built in the PCU
- f) Appropriate AC power evacuation panels or inverters, according to Site requirements, with bus bars (in-built or otherwise) and circuit breakers
- g) Protection or isolation systems
- h) Power and Control Cables
- i) Earthing system for PV Array, DC power system, lightning protection system
- j) Data monitoring system with remote monitoring facilities
- k) Transportation, unloading, and loading of all equipment at Site
- l) Project Management including adherence to all requisite safety practices
- m) Evacuation facility including step-up transformer, wherever required
- n) Control room or panel (which ever may be found appropriate) for the plant built in suitable material, with proper ventilation for temperature control of the equipment and serviceability within the building. Alternatively, the existing meter room can be utilized .

B. Installation and Commissioning of 70 KW capacity Grid connected roof mounted solar photovoltaic power plants , that includes:

- a) Design and construction of foundations or grouting for holding module mounting structures maintaining proper drainage of rain water over terrace through the installation area; cable routings through PVC pipes not obstructing the movement on the terrace
- b) Undertake Pre-commissioning and Commissioning of all supplied equipment
 - i. Test running of the grid-connected solar facility including load trials at Site, prior to handover and commencing energy export for metering
 - ii. Grid commissioning; the plant needs to be grid interactive. Interconnection points to be checked and certified by the concerned distribution licensee for accuracy and safety
 - iii. Installation of Main Meter and Backup Meter, if any with submission of drawings for grid interface for each individual power plant and get approved prior to commencement of work on Site
 - iv. Commissioning certificate from relevant authorities for the Solar Power Plant

2 SCOPE OF WORK – OPERATION AND MAINTENANCE

- 2.1 The operation & maintenance of the plant would include wear, tear, overhauling, machine breakdown, insurance, replacement of defective modules, invertors, PCU's, spares, consumables & other parts for a period of five years. This shall also include operation and maintenance of the evacuation infrastructure, as well.
- 2.2 The Contractor/ Bidder(s) shall be responsible for following activities,
- 2.2.1 Regular operation and maintenance of the plant as well as the evacuation infrastructure/infrastructure for interconnection with the electricity distribution system.
 - 2.2.2 Daily monitoring of plant performance and supply of all technical, production/operation data and information through a monthly report. Daily Management Information System (MIS) reports with generation and down time analysis data shall be made available to User (UPERC)
 - 2.2.3 Carry out maintenance activities as a result of sudden failure/breakdown of any particular component or equipment. Bidder shall be responsible to carry out breakdown maintenance of each and every component of the power plant and shall provide the required manpower, materials, consumables, components or equipment etc. for breakdown maintenance at his own cost irrespective of the reasons of the breakdown/failure.
 - 2.2.4 Prepare and maintain records on daily basis towards maintenance of the plant, electricity generation, electricity injected into the distribution system etc.

Term

2.2.5 The Contractor/Bidder shall be responsible for undertaking the operation and maintenance of the plant for a term of five (5) years from the date of entering into hand-over agreement of the plant to respective Beneficiary.

2.2.6 The term for operation and maintenance of the plant may be extended for another five (5) years on mutually agreed terms and conditions and charges .

2.3 Electricity Generation

2.3.1 The Contractor/Bidder shall be solely responsible for the performance of the plant(s) and shall make all necessary efforts to maximize the electricity generation of the plant.

2.3.2 The bidder shall be responsible for supply of all spare parts as required from time to time for scheduled and preventive maintenance, major overhauling of the plant, replacement of defective modules, inverters, PCU's etc. and maintaining log sheets for operation detail,.

Metering and associated facilities

2.4 The metering of electricity shall be carried out as per the regulations stipulated by Uttar Pradesh Electricity Regulatory Commission and/or Central Electricity Authority. The Contractor/ Bidder(s) shall have to accordingly arrange for the specified meter and metering facilities. It shall also be responsible for the requisite testing and inspection of meters, if required at authorised testing facility. It shall also be responsible for required interactions with the distribution licensee and shall state progress to the concerned department.

3 DETAILED TECHNICAL SPECIFICATION (DTS)

Detailed technical specifications (DTS) for 01 (one) set of Supply, Installation, Testing & Commissioning of 70 KWp ON-Grid Solar Power plant with solar panels on roof top as per specification as mentioned below

**1.0 Solar Photovoltaic Modules with Module level MPPT(Maximum Power Point Tracking)
Only indigenous modules of reputed brand (IEC Tested) shall only be used in the project.**

SPV Module (Qty: As per tender specification)	The Photovoltaic Module Should be 72 Cell, Poly Crystalline Type with a total array capacity of for 10 Kw capacity SPV Power Plant Power output under STC should be 70 KWp and having technical specification mentioned below:		
	S.No	Description	Specification
	1.1.1	Output power Pmax (watt peak)	250 Wp to 315 Wp
	1.1.2	Maximum system Voltage	1000 V DC
	1.1.3	Type of solar PV cell	Poly Crystalline Silicon
	1.1.4	Module output	MC4 electronics Plug (Male & Female)
	1.1.5	Efficiency	15.5%~16%
	1.1.6	Warranty	PV module must be warranted for output wattage, which should not be less than 90% at the end of 12 years and 80% at the end of 25 years
1.1.7	Compliance	(a)IEC 61215 ,IEC 61701 ,IEC 62716,IEC 61730-1 requirements for construction & part-2 requirements for testing, for safety qualification. (b) from any IEC/NABL/MNRE are accredited testing calibration Laboratories	
	Identification and Traceability	Each PV module must use a RF identification tag (RFID), which must contain the following information: (i)Name of the manufacturer of PV Module (ii)Name of the Manufacturer of Solar cells (iii)Month and year of the manufacture (separately for solar cells and module) (iv)Country of origin (separately for solar cells and module) (v)I-V curve for the module (vi)Peak Wattage, Im, Vm and FF for the module (vii)Unique Serial No and Model No of the module (viii)Date and year of obtaining IEC PV module qualification certificate (ix) Name of the test lab issuing IEC certificate.	

			(x)other relevant information on traceability of solar cells and module as per ISO 9000 series. (xi) TheRFID should be placed inside the module laminate Test reports/ certificate from IEC/NABL accredited laboratory to be mandatorily enclosed for relevant IEC/equivalent BIS Standards .	
Power Optimizer Qty as per tender Specifications		Power Optimizer DC/DC converter with constant string voltage feature and which is connected to each PV module (upto 9 KWp) Or only one for every 2 PV Modules(≥ 10 KWp) to provide Maximum Power Point Tracking (MPPT) for mitigating all types of modules mismatch-loss, manufacturing individual module level tolerances and partial shading. Power Optimizer should also be capable for advanced, real-time performance measurement as per S.no 4. Optimizer to be able to instantaneously clamp DC Voltage to 1 V DC (Safe DC) per optimizer when AC power is shut off for installer and fire-fighter safety and having technical specification as mentioned below		
	Sl.no.	Description	Single PV Module Optimizer	Dual PV Module Optimizer
	1.2.1	Suitable For	72-cell SPV modules	
	1.2.2	Module Power	$\leq 350W$	$\leq 700W^*$
	1.2.3	Module Voc	$< 60V$	$< 125 V$
	1.2.4	MPPT Operating Range	8 - 60 Vdc	12.5 – 105 Vdc
	1.2.5	Maximum DC Input Current	11A	12.5 A
	1.2.6	Maximum Efficiency	99.5%	
	1.2.7	Maximum Output Current	15Adc	
	1.2.8	Maximum Output voltage	$\leq 60 Vdc$	$\leq 85 Vdc$
	1.2.9	Safety Output Voltage per Power Optimizer	1Vdc	
	1.2.10	Maximum Allowed System Voltage	1000Vdc	
	1.2.11	Input Connector	MC4 Compatible	
	1.2.12	Protection Rating	IP68	
	1.2.13	Parallel Strings of Different Lengths or Orientations	Yes , Maximum Power per String 5250 Wp	Yes Maximum, Power per String 12750 Wp
	1.2.14	Warranty	25 year reliability and warranty	

	1.2.15	Compliance	EMC: FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3, Safety :IEC62109-1 (class II safety), UL1741, Fire Safety :VDE-AR-E 2100-712:2013-05 *	EMC: FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3, Safety :IEC62109-1 (class II safety), UL1741, Fire Safety :VDE-AR-E 2100-712:2013-05 *
		* Rated combined STC power of 2 modules connected in series. Module of up to +5% power tolerance allowed		
2.0Grid Tied Solar Inverter				
2.1(a)		Solar Grid Tie String Inverters with DC Safety unit (having specification as per S.no 2.2). The Grid Tie Inverter should be designed to work with Power Optimizers Module Level MPPT (Module power point tracking) providing Constant string voltage and should have anti-islanding feature. Inverter should have the specifications as mentioned belowThe cumulative KVA ratings of the invertors for PV system shall be according to the technical design and system wattage		
		Grid Tied String Invertor capacity 70 KW		
	2.1.1	Maximum Input voltage	900 Vdc	
	2.1.2	Operating voltage range	750 Vdc	
	2.1.3	Fixed voltage range	750 Vdc	
	2.1.4	Max. Input current	23	
	2.1.5	Maximum DC Power (Module STC)	22.95 KW	
	2.1.6	Reverse-Polarity Protection	Yes	
	2.1.7	Connection type	2 Pairs MC4	
	2.1.8	Rated AC Power Output	17 KVA	
	2.1.9	Maximum AC Power Output	17 KVA	
	2.1.10	Maximum Continuous Output Current (per Phase	26 Amp	
	2.1.11	AC Output Voltage - Line to Line / Line to Neutral (Nominal)	380/220,400/230 V	
	2.1.12	Output frequency	50/60 HZ \pm 5 HZ	
	2.1.13	Peak Efficiency	\geq 98%	
	2.1.14	Euro Efficiency	\geq 97.7%	
	2.1.15	Product Warranty	Standard 12 year warranty (extendable to 20 or 25 years)	
	2.1.16	Degree of Protection	IP65	

	2.1.17	Operating temperature	-20 to +60: C	
	2.1.18	Noise Level	<55 dbA	
	2.1.19	Night time Consumption	<4 W	
	2.1.20	Supported Communication Interfaces	RS485, Ethernet, Zigbee (optional), Wi-Fi (optional), Built-in GSM(optional)	
	2.1.21	Compliance	(a)Safety : IEC-62103 (EN50178), IEC- (b)Grid Connection Standards : VDE-AR-N-4105, G59/3, AS-62109, AS31004777,EN (50438 , CEI-021,VDE 0126-1-1 (c Emissions: IEC61000-6-2, IEC61000-6-3 , IEC61000-3-11, IEC61000-3-12	
2.2	DC Safety unit (Qty: 1	DC Safety Unit suitable for Grid tie inverter having following technical specification		
	Sl.no	Description	Up to 24 KVA	≥25 KVA
	2.2.1	Nomenclature	Inbuilt	3 In/ 1 out
	2.2.2	2-pole Disconnection	Inbuilt	1000V / 40A
	2.2.3	DC Surge Protection	Inbuilt	Type II, field replaceable
	2.2.4	DC Fuses on Plus & Minus	Inbuilt	Operational , 20 A
3.0 SPV Monitoring System				
3.0	Free for Lifetime	solar inverter to provide module level real time monitoring (web and mobile) for 25 years to display the below mentioned parameters/Features		
		3.1	Should track the technical and financial performance of one or more PV systems	
		3.2	Should provide API interface for integrate with customized software	
		3.3	Monitoring App to be Easy available via web browser and mobile device App store for iOS& Play Store for Android	
		3.4	To map & display Module array layout for each Inverter	
		3.5	To provide logical and physical PV site visualization with real-time performance data for each individual module and for	
		3.6	Should supply the historical and aggregated data, comparative analysis diagnostics and a guided root- cause fault analysis. All data should be logged and be able to be securely reviewed and analyzed at any time from To provide immediate fault detection and troubleshooting,	

			efficient maintenance management, and site profitability analysis any location
		3.7	To provide generation of comprehensive reports on site's energy production, revenues and technical status
		3.8	To provide immediate fault detection and troubleshooting, efficient maintenance management and site profitability analysis
		3.9	Should have a Configurable rule engine which automatically detects problems, issues status reports and sends alerts via e- mail
		3.10	Should have remote fault analysis and servicing options
		3.11	Provide the interactive charts and site layout make it easy for installers to ensure a system is functioning properly after installation
		3.12	Have a playback feature which visualizes the harvested power of a site during a selected time fragment
		3.13	Should have kiosk display feature for enabling to showcase the PV site performance on a display in public spaces (like building lobbies)

4.0 Main AC Distribution Box Panel

4.0 Main AC Distribution Box Panel (Qty: 1 No	AC Distribution box for combining all above Grid Tie Solar inverter with suitable copper bus bar of rating for (RYB), Input and output glands complete with 1 Nos. Class I + II Surge Protective Device, 1 Nos. Multifunction Meter Class 0.5 complete with CTs, Incomers MCB /MCCB & Outgoing MCCB/ACBs as per required capacity, suitable for cable, Polycarbonate IP 65 Enclosure complete all as specified and directed.		
5.0 Module Mounting Structure	Module Mounting Structure with Hot Dip Galvanized Mild Steel 80micron thickness, designed for wind load of 150 KMPH. The same must be tested and certified by a reputed third-party inspection agency. <i>The mounting structure steel should be as per latest IS 2062: 1992 and galvanization of the mounting structure should be in compliance with latest IS 4759</i> The following technical specification is as follows:-		
5.0	Sl.no	Description	Specifications
	5.1	Profile of Roof	RCC
	5.2	Type	Fixed tilt structure, Roof mounted
	5.3	Configuration	As per Site Conditions
	5.4	Material	Hot Dip Galvanized Mild Steel
	5.5	Height of Structure	As per Site Conditions
	5.6	Fixing type	GI/SS304 fasteners
	5.7	Foundation	Concrete foundation/Ballast system. Concrete of M15/M20
	5.8	Grouting	The array structure shall be grounded properly using maintenance free earthing kit suitable for mounting over building terrace

	5.9	Module Mounting	The mounting of solar modules shall be done in such a way that the lower position of solar module shall be of min 500 mm above the terrace level
6.0	CABLES		
	Cables suitable for Solar Power Plant as per below Specification		
6	Sl.no	Description	Specification
LT Cable (Qty as per site requirements)	6.1	Solar Cable - For String Connections	1 C X 4/6 Sq mm Tinned Copper Cables, UV resistant, Solar Cable , TUV certified; 1800 Vdc
	6.2	AC Cables (Inverter to AC distribution Box Panel)	4 C X 10/16/25 Sq mm m, Power cables Cu conductor, XLPE insulation, un-armoured, PVC outer sheath, 1100V
	6.3	AC Cables (AC Distribution Box Panel to Main LT Panels)	3.5 C X 70/95/120/300/400/500 Sq mm , Power cable Al conductor, XLPE insulation, armoured, PVC outer sheath, 1100V
7.0	Cable Tray		
Cable Tray (Qty as per site requirement)	7.1	Cable Tray made of perforated sheets /Ladder type of pre- galvanized or hot dip galvanized sheet of minimum 1.2 mm thickness and the cable tray width should be based on cable size and run.	
	7.2	25 mm HDPE pipe use for Modules interconnection	
8.0	Earthing Systems		
	Earthing system with Lighting arrestor(Qty: As per site requirement)		
	8.1	1CX10 sqmm, Copper conductor Unarmoured Cable for Earthing AC & DC System	
	8.2	Lightening Arrestor Conventional along with Mounting Structure	
	8.3	25x3GI strip for Earthing Lighting Arrestor	
	8.4	Earthing chemical Gel earthing kit	
		The equipment grounding wire shall be connected to one grounding electrode per PV power plant. A separate grounding electrode shall be installed using earth pit per power plant. Test point shall be provided for each earth pit	
9.0	MISC QTY		
9.1	MC4 Connectors(Qty: As per site requirement)	MC4 connectors (Male & Females) required for solar power system complete all as directed.	
9.2	Misc Components(Qty: As per site requirement)	Termination kits, lugs,sign boards, conduits, Washers , Nut Bolts required for above said project etc.	

10.0 Energy Meters

- There would be installation of single directional meter and bi-directional meter depending on voltage of connectivity with the distribution system of the licensee.
- The energy meter shall be of approved make of the off-taker and shall conform to the requirements laid down by the CEA's (Installation and Operation of Meters) Regulation, 2013 and any amendments thereof. These shall be inspected, tested and calibrated at the time of installation and also during operation lifetime of power plant.
- The following are technical specifications of the energy meter that shall be used:

Table :Technical Specifications of Energy Meter

1	Applicable IS	IS 13779 or IS 14697 depending on accuracy of meter
2	Regulations	As per the Central Electricity Authority (Installation and Operation of Meters) regulation 2006 and its Amendment Regulation 2010 and 2013.
3	Accuracy Class Index	As per specifications by Central Electricity Authority or Uttar Pradesh Electricity Regulatory Commission
4	Voltage	415 V (P-P), +20% to -40% Vref, however the meter should withstand the maximum system voltage i.e. 440 V continuously
5	Display	LCD (Six digits), pin type
6	Power factor range	Zero lag – unity – zero lead
7	Display parameters	Display parameters: LCD test, kWh export, MD in kW export, MD in kW import, Date and Time, AC current and voltages, power factor and meter cover open tamper with date and time (Cumulative kWh will be indicated continuously by default and other parameters through push button) Display order shall be as indicated elsewhere
8	Power consumption	Less than 1 W and 4 VA in voltage circuit and 2 VA for current circuit
9	Starting current	0.2% of Ib
10	Frequency	50 Hz with + / - 5% variation
11	Test output device	Flashing LED visible from the front
12	Billing data	Meter serial number, Date and time, kWh export, MD in kW export, MD in kW import, for last 6 billing cycles along with TOD readings All these data shall be accessible for reading, recording and spot billing by downloading through optical port on MRI or laptop computers at site
13	MD registration	Meter shall store MD every 30 minutes period along with date and time. At the end of every 30 minutes new MD shall be compared with previous MD and store whichever is higher and the same shall be displayed.

14	Auto reset of MD	Auto resetting of MD shall be indicated at the time of finalizing GTP and provision shall be made to change MD reset date through MRI even after setting up meter at site Manual MD resetting using sealable push button is optional
15	TOD metering	Meter shall be capable of time of use metering for kWh and MD in kW with 8 time zones (programmable on site through CMRI)
16	Security feature	Programmable facility to restrict the access to the information recorded at different security level such as read communication, write communication, etc.
17	Memory	Non-volatile memory independent of battery backup, memory shall be retained up to 10 years in case of power failure
18	Software and communication compatibility	Optical port with RS 232 compatible to transfer the data locally through CMRI and remote through PSTN / optical fiber / GSM / CDMA / RF / any other technology to the main computer The supplier shall supply software required for CMRI and for the connectivity to AMR modules. The supplier shall also provide training for the use of software. The software should be compatible to Microsoft Windows system (Windows 98 system). The software shall have polling feature with optional selection of parameters to be downloaded for AMR application. Copy of operation manual shall be supplied. The data transfer (from meter to CMRI / AMR equipment) rate should be minimum 1200 bps. The supplier shall provide meter reading protocols.
19	Climatic conditions	IS 13779 or IS 14679 for climatic conditions The meter should function satisfactorily in India with high end temperature as 60°C and humidity up to 96%
20	Meter sealing	As per CEA regulations; Supplier shall affix one utility / buyer seal on side of meter body as advised and record should be forwarded to buyer.
21	Guaranty / Warranty	10 years
22	Insulation	A meter shall withstand an insulation test of 4 kV and impulse test at 8 kV
23	Resistance of heat and fire	The terminal block and meter case shall have safety against the spread of fire. They shall not be ignited by thermal overload of live parts in contact with them as per the relevant IS.
24	Battery	Lithium with guaranteed life of 15 years
25	RTC and micro controller	The accuracy of RTC shall be as per relevant IEC / IS standards
26	PCB	Glass epoxy, fire resistance grade FR4, with minimum thickness 1.6 mm

27	Power ON / OFF hours	Along with billing history parameters meters shall log monthly ON / OFF hours as history.
28	Tamper logging	Last 200 events of magnetic tamper, single wire tamper and top cover tamper shall be logged in memory along with occurrence and restoration event data. Logic of defining tamper and OBIS code shall be agreed before supply of meter.
29	Protection against HV spark	Meter shall continue to record energy or log the event, in case it is disturbed externally using a 35 KV spark gun / ignition coil.

- **Influence parameters**

In the following conditions and disturbances the meter shall not get affected and shall at least keep on recording forward energy.

- Incoming and Outgoing interchanged
- Phase and Neutral interchanged
- Incoming neutral disconnected, Outgoing neutral and load connected to Earth
- Incoming neutral disconnected, Outgoing neutral connected to Earth through resistor and load connected to Earth
- Incoming neutral connected, Outgoing neutral connected to Earth through resistor and load connected to Earth
- Incoming phase and neutral interchanged, load connected to Earth
- Incoming and outgoing (phase and neutral) disconnected, load connected to Earth

The meter shall work satisfactorily with guaranteed accuracy limit under the presence of the following influence quantities:

- a) External magnetic field – 0.5 Testa
- b) Electromagnetic field induction
- c) Radio frequency interference
- d) Vibration
- e) Waveform 10% of 3rd harmonics
- f) Voltage variation
- g) Electromagnetic HF field
- h) DC immunity test

- **Display sequence**

A. Default display:

Cumulative kWh to be displayed continuously without decimal

B. On-demand display:

After using push-button the following parameters shall be displayed:

1. LCD test
2. Date
3. Real Time
4. Current MD in kW

5. Current kW generated by solar system
6. Last month billing kWh reading
7. Last month billing Maximum Demand in kW
8. Last month billing Maximum Demand in kW occurrence date
9. Last month billing Maximum Demand in kW occurrence time
10. Instantaneous AC current and voltages
11. Power factor
12. Display for tamper
13. MD reset counter
14. % THD of current harmonics R, Y, B
15. % THD of voltage harmonics R, Y, B
16. % THD above threshold value with date and time

In case push-button is not operated for 6 seconds the display shall return to Default display as mentioned above.

It is also required to install a utility controlled manual disconnect switch located on the line side of the meter. Said manual switch shall have the capability of being locked out to isolate the facility if an electrical outage occurs. The manual disconnect switch may also be used by the distribution utility as a means of isolation during maintenance, testing, outage, and/or emergency activities.

3.9 Warrantees and/or guarantees and its compliance by the Contractor/ Bidder

Table 5: Warranties and/or guarantees for solar rooftop systems

S. No	System/component	Warranty (Years)	Performance Requirement	Workmanship / Replacement Guarantee (Years) with an equivalent standard
1	Rooftop solar PV system	5	Minimum CUF of 13% (annual basis) Power plant Performance Ratio minimum 70%	-
2	Solar Modules	25	Minimum 90% power output at the end of 10 years & minimum 80% power output at the end of 25 years	25
3	Inverter	5	Warrants the products including functioning of built-in options and against defect of material	5
4	Power Evacuation and Metering Equipment	-	NA	5
5	Balance of Systems	-	NA	5 (parts and workmanship)

6	Power Plant Installation	-	NA	5
7	PV Array Installation	25	Structural Breakage and Corrosion	-

4.0 Standards and Limits

Following specifications shall be applicable for the activities related to meters and grid interconnection.

Table 6: Standards and Limits

PARAMETER	REFERENCE	REQUIREMENT
Service conditions	Relevant regulation/order by Uttar Pradesh Electricity Regulatory Commission	Compliance
Overall Grid Standards	Central Electricity Authority (Grid Standard) regulations 2010	Compliance
Equipment	BIS / IEEE / IEC	Compliance
Meters	Central Electricity Authority (Installation and Operation of Meters) Regulation 2013 & relevant regulations by Uttar Pradesh Electricity Regulatory Commission	Compliance
Safety and Supply	Central Electricity Authority (Measures of Safety and Electricity Supply) Regulation 2010	Compliance
Harmonic Current	IEEE 519 and CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Harmonic current injections from a generating station shall not exceed the limits specified in IEEE 519
Synchronization	IEEE 519 and CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Photovoltaic system must be equipped with a grid frequency synchronization device. Every time the generating station is synchronized to the electricity system. It shall not cause voltage fluctuation greater than +/- 5% at point of connection.
Voltage	IEEE 519 and CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	The voltage-operating window should minimize nuisance tripping and should be under operating range of 80% to 110% of the nominal connected voltage. Beyond a clearing time of 2 second, the photovoltaic system must isolate itself from the grid.
Flicker	IEEE 519 and CEA (Technical	Operation of Photovoltaic system

PARAMETER	REFERENCE	REQUIREMENT
	Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	should not cause voltage flicker in excess of the limits stated in IEC 61000 standards or other equivalent Indian standards, if any.
Frequency	IEEE 519 and CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	When the Distribution system frequency deviates outside the specified conditions (50.5 Hz on upper side and 47.5 Hz on lower side), There should be over and under frequency trip functions with a clearing time of 0.2 seconds.
DC injection	IEEE 519 and CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Photovoltaic system should not inject DC power more than 0.5% of full rated output at the interconnection point under any operating conditions
Power Factor	IEEE 519 and CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	While the output of the inverter is greater than 50%, a lagging power factor of greater than 0.9 should operate
Islanding and Disconnection	IEEE 519 and CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	The photovoltaic system in the event of fault, voltage or frequency variations must island / disconnect itself within IEC standard on stipulated period
Overload and Overheat	IEEE 519 and CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	The inverter should have the facility to automatically switch off in case of overload or overheating and should restart when normal conditions are restored
Paralleling Device	IEEE 519 and CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Paralleling device of photovoltaic system shall be capable of withstanding 220% of the normal voltage at the interconnection point.

Notes for Bidder:

1. The installation should not be protruding outside the building and there should not be overhang type structure on any terrace.
2. Any installations on the terrace should be planned and executed in such a way that water proofing will not be disturbed and harmed. In case any area water proofing is affected it will be Bidders's responsibility to correct it and put it right.

PART -5

WARRANTY AND MAINTENANCE

- The PV modules will be warranted for a minimum period of 25 years from the date of supply. (Output wattage should not be less than 90% at the end of 10 years and 80% at the end of 25 years).
- The mechanical structures, electrical components including evacuation infrastructure and overall workmanship of the Solar PV Rooftop power plant system must be warranted for a minimum of 5 years from the date of commissioning and handing over of the system.
- The Comprehensive Maintenance (within warranty period) shall be executed by the firm themselves or through the authorized dealer/ service centre of the firm in the concerned district.
- Necessary maintenance spares for five years trouble free operation shall also be supplied with the system.
- The contractor/ bidder shall be responsible to replace free of cost (including transportation and insurance expenses) to the purchaser whole or any part of supply which under normal and proper use become dysfunctional within one month of issue of any such complaint by the purchaser.
- The service personnel of the Successful Bidder will make routine quarterly maintenance visits. The maintenance shall include thorough testing & replacement of any damaged parts.
- Normal and preventive maintenance of the SPV Rooftop Power Plant systems will also be the duties of the deputed personnel during quarterly maintenance visits.
- During operation and maintenance period of the SPV Rooftop Power Plant systems, if there is any loss or damage of any component due to miss management/miss handling or due to any other reasons pertaining to the deputed personnel, what-so-ever, the supplier shall be responsible for immediate replacement/rectification. The damaged component may be repaired or replaced by new component

5: FORMAT FOR MINIMUM GUARANTEED GENERATION

Year	Minimum Guaranteed Generation (kWh)
1 st	
2 nd	
3 rd	
4 th	
5 th	

Technical Bid

PART- 6 e-tender No: 01/UPNEDA-UPERC/Grid Connect/Rooftop/2017		
	Description	To be furnished by the Contractor/Bidder
A.	Solar PV Module	
1.	Type of Module:Crystalline/multicrystalline	
2.	Manufacturer	
3	Max power at STC Pmax (W)	
4.	Voltage at Max power Vmp (V)	
5.	Current at Max power Imp(A)	
6.	Open circuit voltage Voc (V)	
7	Short circuit current Isc (A)	
8.	Module efficiency	
9	Rated capacity of SPV panels at STC	
10	Fill factor	
B	Solar Power Conditioning Unit	
1.	Manufacturer :/Make	
2	Nos of PCU	
3	Capacity of PCU	
4	Operating voltage (DC)	
5	Operating voltage AC (pure sine wave)	
6	THD	
7	Details of Indicators provided	
8	Efficiency at full load (%)	
9	Frequency Hz	
10	IEC Cerification	
C	<u>Power Optimizer</u>	
	Total nos. of <u>Power Optimizer</u>	

	1 set of 70 KVA Solar Power System As per offer from the range of 250 Wp to 315 Wp	
	MAKE	
	Suitable For	
	Module Power	
	Module Voc	
	MPPT Operating Range	
	Maximum DC Input Current	
	Maximum Efficiency	
	Maximum Output Current	
	Maximum Output Voltage	
	Safety Output Voltage per Power Optimizer	
	Maximum Allowed System Voltage	
	Input Connector	
	Protection Rating	
	Parallel Strings of Different Lengths or Orientations	
	Warranty	

(Signature of Bidder)
with seal

PART B (Financial Bid)
e-tender NO. **01/UPNEDA-UPERC/Grid Connect/Rooftop/2017**

Name of the Firm: -----

S.no	Item	Total Price inclusive of all taxes (Rs)
1	Supply, installation, testing and commissioning including 5 years Operation, Comprehensive warranty & maintenance of 70 KW Capacity Grid connected Rooftop Solar Photovoltaic Power Plant including power evacuation system in UP Electricity Regulatory Commission (UPERC) in Gomtinagar District Lucknow	

NOTES:

1. Certified that rates quoted above are as per the requirement, specification terms & condition mentioned in the e-tender document.
2. The rates are inclusive of all taxes & duties, storage, transportation up to site, insurance etc., and any other job required to properly execute the work.

(Signature of Bidder)
With seal

To be uploaded in Part B. Other document / condition, terms if enclosed will liable to be rejection of bid.
--

FORMAT of BG FOR EARNEST MONEY DEPOSIT

FORMAT OF THE UNCONDITIONAL AND IRREVOCABLE BANK GUARANTEE FOR EARNEST MONEY DEPOSIT

(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*) submitting the Bid *inter alia* for Supply, Installation, Testing and Commissioning of Grid Connected Rooftop Solar Photovoltaic Power Plants including 5 years operation ,comprehensive warranty and maintenance for meeting the terms and conditions in response to the E-BID DOCUMENT dated -----, issued by **Uttar Pradesh New and Renewable Energy Development Agency** (“UPNEDA”), and UPNEDA agreeing to consider the Bid of [*Insert the name of the Bidder*] in accordance with the terms of the E-BID DOCUMENT, the (Insert name and address of the bank issuing the Bid Bond, and address of the head office) (here in after referred to as “Guarantor Bank”) hereby agrees unequivocally, irrevocably and unconditionally to pay to UPNEDA or its authorized representative at [*Insert Name of the Place from the address of UPNEDA*] forthwith on demand in writing from UPNEDA or any representative authorized by it in this behalf an amount not exceeding Rupeeson behalf of M/s.[*Insert name of the Bidder*].

This guarantee shall be valid and binding on the Guarantor Bank up to and including (*Insert date of validity of Earnest Money Deposit in accordance with Clause 3.7 of the E-BID DOCUMENT*) and shall not be terminable by notice or any change in the constitution of the Guarantor Bank 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 concerned parties.

Our liability under this Guarantee is restricted to Rupees (Rs...). UPNEDA or its authorized representative shall be entitled to invoke this Guarantee until [*Insert Date, which is six months after the date in the preceding sentence*]. The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand from UPNEDA or its authorized representative, made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to UPNEDA or its authorized representative.

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection, disputes, or disparities raised by the Bidder or any other person. The Guarantor Bank shall not require UPNEDA or its authorized representative to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against the UPNEDA or its authorized representative in respect of any payment made hereunder.

This BANK GUARANTEE shall be interpreted in accordance with the laws of India and the courts at 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, liquidation, winding up, dissolution 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, UPNEDA or its authorized representative shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the Bidder, to make any claim against or any demand on the Bidder or to give any notice to the Bidder to enforce any security held by UPNEDA or its authorized representative or to exercise, levy or enforce any distress, diligence or other process against the Bidder.

The Guarantor Bank acknowledges that this BANK GUARANTEE is not personal to UPNEDA and may be assigned, in whole or in part, (whether absolutely or by way of security) by UPNEDA to any entity to whom it is entitled to assign its rights and obligations.

The Guarantor Bank hereby agrees and acknowledges that UPNEDA shall have a right to invoke this Bank Guarantee either in part or in full, as it may deem fit.

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rupees -----and it shall remain in force until [Date to be inserted on the basis of Clause 1.7 of E-BID DOCUMENT], with an additional claim period of 6 (six) months thereafter. We are liable to pay the guaranteed amount or any part thereof under this BANK GUARANTEE only ifthe UPNEDA or its authorized representative serves upon us a written claim or demand.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this day of at

Witness:

Signature	Signature
Name	Name
Address	Address
Designation with Bank Stamp Signature	Designation with Bank Stamp Signature

Name and address

Attorney as per power of attorney No.

For:..... [Insert Name of the Bank]

Banker's Stamp and Full Address:

Dated this day of 20.....

Note: The Stamp Paper should be in the name of the Executing Bank.

Site details

Site is Uttar Pradesh Electricity Regulatory commission Building in Gomtinagar District Lucknow
As per sanctioned load and available space on various buildings total aggregate capacity of 70 KW
Grid connected Rooftop Solar Power Plant is proposed to be installed .

Bidders are requested to visit the site prior to bidding.