

e-TENDER DOCUMENT

FOR

SUPPLY, INSTALLATION & COMMISSIONING AND 5 YEARS COMPREHENSIVE  
MAINTENANCE OF  
**SOLAR PV POWER GENERATORS/PLANTS**

IN

VARIOUS DISTRICTS OF UTTAR PRADESH



**e-tender NO.-UPNEDA/SPG/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.)

Vibhuti Khand, Gomtinagar, 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 the supply, installation and commissioning and 5 years comprehensive warranty & maintenance of following item at various sites in Uttar Pradesh as per the details given in e-tender document.

| Item  | e-tender No.     | Quantity Required     | Fee of e-tender Document | Earnest Money |
|---|------------------|-----------------------|--------------------------|---------------|
| Solar Power Generator of various capacity i.e. 1000 watt, 1500 watt, 2000 watt, 2500 watt, 3000 watt, 4000 watt, 5000 watt, 6000 watt, 8000 watt, 10000 watt, 15000 watt, 20000 watt, 25000 watt, 30000 watt and 50000 watt with battery back up. | UPNEDA/SPG /2017 | Approximately 3600 KW | Rs 2360/                 | Rs 45.0 lakh  |

The tender document is available at e-Procurement website <http://etender.up.nic.in> and UP Electronics Corporation's website [www.uplc.in](http://www.uplc.in) from 12/12/2017. 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:

|     |  |  |
|-----|--|--|
| (a) | Availability of tender document on website   | 12/12/2017 at e-Procurement web site <a href="http://etender.up.nic.in">http://etender.up.nic.in</a> |
| (b) | e-Bid submission end date & Time   | 10/1/2018 up to 06.00 PM   |
| (c) | Online technical e-Bid opening date & time   | 11/1/2018 at 11.30 AM  |
| (d) | Online financial e-Bid opening date & time (Only of technically qualified bidders) | 18/1/2018 at 12.30 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 Vibhuti Khand, Gomti Nagar Lucknow before opening date and time of technical e-Bid failing which, tender shall not be considered. Numbers of the system mentioned as above, may increase or decrease. 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

**2. Covering Letter:**

FROM:-

(Full name and address of the Bidder)

.....  
.....

To:

The Director,  
Uttar Pradesh New and Renewable Energy  
Development Agency (UPNEDA)  
VibhutiKhand, Gomti Nagar, Lucknow- U. P.

Subject: -Offer in response to e-tender specification No:UPNEDA/SPG/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 to supply, install and carryout 5 years comprehensive warranty maintenance of more than .... kW capacity Solar PV Power Generators/Plants in 4 months and.....kW in a year

(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)<br>Annexure-I (b)                              | Details of Tender document fees ( Demand Draft no, date, amount and bank name)<br>Details of Earnest money (bank guarantee no. and date, (valid for four months)  |                  |
| 2.   | Annexure-II   | The bidder is a Manufacturing Company/Firm/ Corporation Registered <b>in India</b> of SPV Cells / Modules / PV System Electronics /Invertors/Battery(conforming to relevant National / International Standards)<br><b>OR</b><br>a PV System Integrator-- At least Solar Photovoltaic Power Plant (s) aggregating to a total of 350 KW capacity should have been installed / commissioned .<br>(A copy of the order and completion certificate indicating its successful execution to be enclosed) |                  |
| 3.   | Annexure-III<br><br>III(a)<br>III(b)<br>III(c)<br><br>III (d) | Following Test Certificates & Reports for components specified in technical bid<br><u><b>1.SPV Modules</b></u><br>a) IEC 61215 edition II/ IS 14286 for Crystalline Modules<br>b) IEC 61730 Part 1 & 2<br>c) STC Performance Report –I V curve .<br><u><b>2.Batteries-</b></u> CECRI or MNRE authorized test centres if battery make is other than specified in this document.<br><b>3. PCU cum Inverters</b>   |                  |
|      | III (e)   | MPPT and Protections - IEC 61683 /IS 61683 & IEC 60068-2(1,2,14,30) / equivalent BIS Standard <b>or</b> Charge controller /MPPT units– IEC 60068-2(1,2,14,30) / equivalent BIS standard .   |                  |
| 5.   | Annexure-IV   | A copy of GST registration certificate  |                  |
| 6    | Annexure-V  | Overall Average Annual Turnover of the Company/Firm/ Corporation in the last three financial years Rs 13.5 Cr ( A summarized sheet of turnover of last three Financial Years certified by registered CA)  |                  |
| 7.   | Annexure-VI   | MNRE accredited off- Grid Channel Partner/<br>Programme Administrator<br><br><b>OR</b><br>Credit Rating (from MNRE Accredited Rating Agency) of “SP 2C” and above   |                  |
| 8.   | Annexure-VII  | A summarized sheet of <b>cumulative experience</b> in <b>PV systems/power plants</b> certified by registered CA.  |                  |
| 9.   | Annexure-VIII   | Bidder’s cumulative experience* in last 10 years in supply and installation/commissioning of total capacity of Solar Power Generators/Plants<br>Cumulative nos:   |                  |

|     |                |  |  |
|-----|----------------|--|--|
|     |                | >500 KWp.<br>>1,000 KWp.   |  |
| 10. | Annexure-IX    | Value of a “Single Order” of Installation, commissioned and 5 yrs O&M of Solar Power Plants executed by the Bidder (A copy of the order indicating its value and certificate indicating its successful execution)<br>Value of a “Single Order”<br>Valued more than Rs 50.0 lakhs<br>Valued more than Rs. 1.0crores       |  |
| 11. | Annexure-X     | Bidder has Test Certificate for Solar Lanterns, Solar Home lighting System, Solar Street Lighting System, Solar Water Pumping System or SPV Modules, battery, Electronics etc from a MNRE authorized testing centre. (Test Certificate should have been issued on or after 1st january 2014.)<br>Number of certificates: |  |
| 12. | Annexure-XI    | Cumulative Experience* of the Bidder in executing contracts of Solar Photovoltaic Systems/ Power Plants(Installed & Commissioned)<br>>1000KWp<br>>2000KWp  |  |
| 13. | Annexure-XII   | The bidder has ISO 9001 certification.   |  |
| 14. | Annexure-XIII  | The bidder has ISO 14001 certification.  |  |
| 15. | Annexure-XIV   | 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.   |  |
| 16. | Annexure-XV    | <b>Cumulative Experience*</b> of the Bidder in executing contracts (Installed & commissioned) of <b>Stand-alone Solar P V Systems/ Power Plants:</b><br><b>At least 50% of the tendered value</b><br><b>At least 75% of the tendered value</b>   |  |
| 17  | Annexure-XVI   | The bidder is a <b>SPV Modules</b> Manufacturing Company, Registered in India , <b>with a min. Capacity of</b><br><b>--- 10MWp per annum</b><br><b>--- 25 MWp per annum</b><br><b>---</b>  |  |
| 18  | Annexure-XVII  | The bidder is a <b>SPV cells</b> Manufacturing Company, Registered in India, <b>with a min. Capacity of</b><br><b>--- 5 MWp per annum</b><br><b>--- 10 MWp per annum</b>   |  |
| 19  | Annexure-XVIII | <b>Others</b><br>XVIII(i). An undertaking that the service centres will be opened in allotted district and list will be submitted before supply and installation for verification.<br>XIX(ii). -----<br>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.   | UPNEDA/SPG/2017   |
| 2. | Particulars of the work                                    | Supply, installation and commissioning of Solar Power Generator/Plants of various capacity i.e. 1000 watt, 1500 watt, 2000 watt, 2500 watt 3000 watt, 4000 watt, 5000 watt,6000 watt,8000watt, 10000Wp,15000 watt, 20000 watt, 25000watt ,30000 watt and 50000 watt with battery backup with 05 years warranty comprehensive maintenance at the identified sites by Uttar Pradesh New And Renewable Development Agency (UPNEDA) |
| 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 | 10/01/2018 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.)      | 11/01/2018 11.30 AM   |
| 7. | Date and Time of opening of e-tender (Financial bid.)      | 18/01/2018 at 12.30 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?<br>If yes up to what amount?   |  |
| 12 | Have the Bidder ever been debarred By any Govt. Deptt./ Undertaking for undertaking any work?                      |  |
| 13 | Monthly supply capacity (attach supporting document)   |  |
| 14 | Details of offer (please mention number of pages and number of Drawings in the hard copy)                          |  |
| 15 | Reference of any other information attached by the Bidder (please Mention no. of pages & no. of drawings)          |  |

(Signature of Bidder)  
with Seal



**6.DECLARATION BY THE BIDDER**

(Regarding e-tender NO.- UPNEDA/SPG/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 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 and carryout 5 years comprehensive warranty maintenance of aggregate capacity more than.....kW in 4 months and..... kW in a year of Solar Power Generators /Plants .

(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 | Eligibility condition             |
| Section-3  | Preparation of e-tender           |
| Section-4  | Submission of e-tender            |
| Section -5 | e-tender opening and evaluation   |
| Section-6  | 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 .

#### **1.2 LOCAL CONDITIONS**

It shall be imperative on each bidder to fully inform him of all local conditions and factors, which may have any effect on the execution of the works covered under these documents and specifications. UPNEDA shall not entertain any request for clarifications from the Bidder, regarding such local conditions.

### 1.3 CLARIFICATION:

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

.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

**Enquiries/clarifications may be sought by the Bidder from:**

Director,  
Uttar Pradesh New & Renewable Energy Development Agency,  
VibhutiKhand, 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 document shall be made available on websites: [www.upneda.org.in](http://www.upneda.org.in);  
<http://etender.up.nic.in> and [www.uplc.in](http://www.uplc.in). All are requested to remain updated with the website. No separate reply/ intimation will be given elsewhere.

## SECTION 2: ELIGIBILITY CONDITIONS

### Eligibility Conditions for Bidders

#### 1. Minimum Eligibility Conditions:

- **The Bidder should be**

A Registered Manufacturing Company/Firm/ Corporation in India of **SPV Cells / Modules or PV System Electronics or Invertors or Battery**(Conforming to relevant National / International Standards)

**OR**

**A PV System Integrator empanelled as channel partner accredited by the MNRE for off grid and decentralized solar application under JNNSM with MNRE.**

- At least Solar Photovoltaic Power Plant (s) aggregating to a total of 350 KW capacity should have been installed / commissioned.

(A copy of the work order and certificate indicating its successful execution to be enclosed)

- The bidder should have last three years (i.e. FY 2014-15, 2015-16 and 2016-17) experience in executing contract of Solar 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 (Rs 11.25 Cr).**
- The Bidder should have valid GST 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 13.5 Crores (Rs Thirteen Crore and fifty thousand rupees 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)

## 2. Other Eligibility Conditions

The “Financial bids” of only those bidders shall be opened, who qualify in “Minimum Eligibility Conditions” as above and score at least 60 Points in “technical evaluation”. The “Points” for the “technical evaluation” shall be assigned as under:

| S.N. | Criteria   | Point   |
|------|--|---------|
| 1    | MNRE accredited off- Grid <b>Channel Partner/ Programme Administrator</b><br><b>OR</b><br><b>Credit Rating</b> (from MNRE Accredited Rating Agency ) of “SP 2C” and above  | 10      |
| 2    | <b>Cumulative Experience*</b> of the Bidder in executing contracts of <b>Solar Photovoltaic Systems/ Power Plant.</b> (Installation & Commissioning of PV Systems/ Power Plants)<br><br>>1000KWp<br>>2000KWp   | 5<br>10 |
| 3    | Bidder’s cumulative experience in last 10 years in supply and installation/commissioning of total cumulative capacity of Solar Power generators/ Plants<br><b>&gt;500 KWp.</b><br>>1,000 KWp   | 5<br>10 |
| 4    | Value of a “ <b>Single Order</b> ” *of Solar Power Plants executed by the Bidder :<br>Valued more than Rs. 50.0 lakhs<br>Valued more than Rs. 1.0 Crores   | 5<br>10 |
| 5    | <b>Cumulative Experience*</b> of the Bidder in executing contracts (Installed & commissioned) of <b>Stand Alone Solar P V Systems /Power Plants:</b><br><b>At least 50% of the tendered value</b><br><b>At least 75% of the tendered value</b>   | 5<br>10 |
| 6    | Bidder has <b>Test Certificate for Solar Lanterns, Solar Home lighting System, Solar Street Lighting System, Solar Water Pumping System or SPV Modules, battery, Electronics etc</b> from a MNRE authorized testing center. (Test Certificate should have been issued on or after January 2014.)<br><b>Certificate for any two of the above</b><br><b>Certificate for more than two of the above</b> | 5<br>10 |

|    |   |         |
|----|---|---------|
| 7  | The bidder is a <b>SPV Modules</b> Manufacturing Company,<br>Registered in India, <b>with a min. Capacity of</b><br>---- 10 MWp per annum<br>--- 25 MWp per annum<br>---    | 5<br>10 |
| 8  | The bidder is a <b>SPV cells</b> Manufacturing Company,<br>Registered in India, <b>with a min. Capacity of</b><br>--- <b>5 MWp per annum</b><br>--- <b>10 MWp per annum</b> | 5<br>10 |
| 9  | The bidder has ISO 9001 certification   | 10      |
| 10 | The bidder has ISO 14001 certification  | 10      |

\*Bidder's experience should be in supply, installation/commissioning (contracts executed, completed and handed over) of Solar Photovoltaic Systems/ Power Plants for :  
MNRE supported Schemes / Programmes, (including Projects executed by channel  
Partners availing MNRE support)

OR

Any Government Organisation/ Agency/ SNA/PSU.

## **SECTION 3: PREPARATION OF e-tender**

### 3.1 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) Documentary evidence establishing that the bidder is eligible to Tender and is qualified to perform the contract if its tender is accepted. Check list of Annexure as provided in e-tender document
- (e) 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.
- (f) 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

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

#### 3.3.2 DUTIES AND TAXES

The price quoted should include all taxes and duties, custom duty, GST, local taxes, 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.

### 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.

### 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. 45.00 lakhs (Forty five lakhs 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.

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 Bidder 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 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.
- 4.2 EXPENSES OF AGREEMENT: A formal agreement for a period of 01 (one) year 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. In case Solar Pumping systems for irrigation purpose are to be supplied, installed and commissioned at sites selected in various districts by U.P Agriculture department against the work orders placed by UPNEDA, a separate tripartite agreement shall be entered amongst UPNEDA, contractor/ bidder and the U.P. Agriculture Department 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 bidder 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 superscribed 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

- 5.2.1 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:

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

6.2 Finalization of Empanelment:

- First the Technical Bids shall be opened and evaluated.
- Then the price bid of technically qualified parties shall be opened.
- The lowest rate (i.e. L-1) received (and in turn approved by the competent authority) would be the “Approved Rate”.
- L1 i.e. Lowest Rate Bidder for each category of system as per Annexure Z will be awarded up to 60% of the total quantity or as per his capacity given in the bid, whichever is lower.
- “Approved Lowest Rate” in each category would be offered to those lowest bidders (i.e. to L-2, L3 and so on) having price not more than 15% of lowest approved rates (L1) will be empanelled and awarded equally remaining of 40% of total bid quantity or as per his capacity given in the bid, whichever is lower.
- Training of the user will be arranged by the contractor/ bidder.
- After work order is placed, 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.

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

6.4 UPNEDA reserves the right at the time of awarding the contract to increase or decrease the quantity of goods and locations of supply without any change in price or other terms and conditions.

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

### 6.6 NOTIFICATION OF AWARDING THE CONTRACT:

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

### 6.7 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:-
- 1.1 UPNEDA shall short list the successful bidder (s) on “Rate Contract” basis after verifying their capacity (or may choose one party i.e. L1, to execute the order). The Project shall be executed by UPNEDA. The successful bidder (s) shall have to sign the Contract with Uttar Pradesh New and Renewable Energy Development Agency, U.P. (UPNEDA).

### 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 on Rate contract basis. 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 last work order subject to the completion period as provided in the clause 1.3.
- 1.6 The contractor/ bidder, (i.e. the successful bidder), may operate in the State of Uttar Pradesh through a single authorized dealer for execution of the orders placed on authorized dealer. It will be the sole responsibility of the contractor/ bidder, to execute orders placed as per time schedule, and to ensure quality parameters, specifications and other requirements provided in the e-tender document and as per agreement.
- 1.7 In the interest of the work and the programme, agreement executed between the contractor/bidder and the “UPNEDA” may be extended to a mutually agreed period, if the need so arises. It shall be sole responsibility of the contractor/ bidder to get verified the quality & quantity of the supplied material at the site of delivery.

### 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 fulfill 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 fright 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 what so ever 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/ bidder's 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 thesecond 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 warrant as per standards for quality that anything to be furnished shall be new, free from all defects and faults in material, workmanship and manufacture, shall be of the highest grade and consistent with established and generally accepted standards for material of the type ordered, shall be in full conformity with these specifications, drawing or samples, if any and shall if operable, operate properly. Nothing in clause 10 above shall in any way release the contractor/ bidder from any guarantee or other obligations under this contract.

11.2 Performance of Equipment: In addition to the warranty as already provided, the contractor/bidder shall guarantee satisfactory performance of the equipment and shall be responsible for the period or up to the date specified in clause 11.3 hereof after the equipment has been accepted by the “UPNEDA” to the extent for any defects that may develop such defects shall be removed at his own cost when called upon to do so by the “UPNEDA”

- 11.3 The Warranty period shall be 25 Years for the PV modules and 5 years for complete system from the date of commissioning and handing over of the system. The contractor/ bidder shall rectify defects developed in the system within Warranty period promptly. In case the defects are not rectified within a week of the receipt of the complaint by the contractor/ bidder “UPNEDA” shall have full liberty to restore the system in working condition. The expenditure so incurred by “UPNEDA” shall be deducted from the contractor/ bidder pending claims, security/performance guarantee deposit or in other lawful manner.
- 11.4 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.
- 11.5 The contractor/ bidder shall maintain the system under annual maintenance contract with the end user.
12. Notice statement and other communication send by “UPNEDA” through registered post or telegram or fax or Email to the contractor/ bidder at his specified addresses shall be deemed to have been delivered to the contractor/ bidder.
13. Any work which is not covered under this contract but is essential required for the completion of job (To the satisfaction of UPNEDA) shall be carried out by the contractor as extra item or which payment shall be made separately at the rates decided by UPNEDA
14. The work shall be carried out by the contractor/ bidder as per design and drawings approved by “UPNEDA”, wherever, necessary, the contractor/ bidder shall submit relevant designs and drawings for approval of “UPNEDA”, if required well in advance. Work carried out without UPNEDA’s approval shall not be accepted and the “UPNEDA” shall have right to get it removed and to recover the cost so incurred from the contractor/ bidder.
15. The contractor/ bidder shall provide one copy system manual containing instruction manual/ routine maintenance manual and maintenance record of the systems with each unit supplied or installed, this shall be both in English and Hindi language.  
The following minimum details must be provided with manual:
- About the complete photovoltaic system including PV modules, battery and electronics
  - DO's and DONT's
  - Clear instructions on regular maintenance and trouble shooting of the system
  - Name & address & phone no of the contact person in case of non-functioning of the system.
  - UPNEDA’s Toll free number.
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 Contractor/ bidders, wherever applicable, shall after proper painting, pack and crate all the equipment in such manner as to protect them from deterioration and damage during rail and road transportation to

the site and storage at the site till time of installation. Contractor/bidder shall be held responsible for all damage due to improper packing.

- 18.2 The contractor/ bidder shall inform the “UPNEDA” of the date of each shipment from his works, and the expected date of arrival at the site for the information of the “UPNEDA” project offices at least 7 days in advance.

#### 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

The goods supplied under the contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage during transportation shall be included in the bid price.

#### 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

“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 and duties, custom duty, GST, local taxes, Income Tax, Surcharge on income tax etc. if any. A supplier/ 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. OTHERS:

- 27.1 I-V curve of the each module technical details such as Voc, Isc, , FF, cell efficiency and P maxetc shall be supplied along-with each consignment and copy should be sent to “UPNEDA” HQ for records.
- 27.2 The Contractor in consultation with concerned Project Officer of “UPNEDA” will conduct training programme for users, focusing on main features, operation and maintenance of the systems.
- 27.3 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.
- 27.4 After successful supply/commissioning of the system and training, the system will be handed over to the person designated by the UPNEDA.
- 27.5 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.

28. PAYMENTS:

The payments shall be made as per the following terms and conditions:

- i) 70% of the ordered value after the supply of the complete system at site and duly certified by the concerned district officer of UPNEDA as per the technical specification and terms and conditions specified in the contract.
  - ii. 15% of the ordered value after installation and commissioning of the system along-with the handing over certificate, indicating bill of material and successful commissioning duly countersigned by the designated officer and 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 66 months
29. 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 scope of work includes design, supply, and installation, commissioning, Solar Power Generators/Plants including 05 years comprehensive warranty and maintenance in various tehsils/block offices /Institutions, individual beneficiary and at locations anywhere in the State of Uttar Pradesh as directed by UPNEDA at sites identified by UPNEDA as per the following specifications.

#### GENERAL TECHNICAL SPECIFICATION:

A standalone solar photovoltaic power generator/plant proposed comprises of solar PV modules of given capacity, with battery bank, necessary control electronics interconnecting wires / cables, module mounting structures, necessary grounding /earthing etc.

#### BROAD PERFORMANCE PARAMETERS

| S..No | Category/<br>Type of<br>Solar<br>power<br>Generator/<br>Plant | Solar PV<br>module Array<br>Capacity (Wp) | PCU<br>Capacity<br>MPPT Type<br>(VA) | Battery Bank Capacity<br>/Configuration @c10 |
|-------|---|---|--------------------------------------|--|
| 1     | 1000 Watt   | 1000                                      | 1250                                 | 48V, 150 Ah                                  |
| 2     | 1500 Watt   | 1500                                      | 2000                                 | 48V , 240 Ah                                 |
| 3     | 2000 Watt   | 2000                                      | 2500                                 | 48V, 300 Ah                                  |
| 4     | 2500 Watt   | 2500                                      | 3000                                 | 48V, 400 Ah                                  |
| 5     | 3000 Watt   | 3000                                      | 4000                                 | 48V, 450Ah                                   |
| 6     | 4000 Watt   | 4000                                      | 5000                                 | 96V, 300 Ah                                  |
| 7     | 5000 Watt   | 5000                                      | 6000                                 | 96 V, 400Ah                                  |
| 8     | 6000 Watt   | 6000                                      | 8000                                 | 96 V, 500Ah                                  |
| 9     | 8000 Watt   | 8000                                      | 10000                                | 96 V, 600Ah                                  |
| 10    | 10000 Watt  | 10000                                     | 12500                                | 120 V, 600Ah                                 |
| 11    | 15000Watt   | 15000                                     | 20000                                | 240V, 500 Ah                                 |
| 12    | 20000Watt   | 20000                                     | 25000                                | 240V, 600Ah                                  |
| 13    | 25000 Watt  | 25000                                     | 30000                                | 240V, 750 Ah                                 |
| 14    | 30000 Watt  | 30000                                     | 40000                                | 240V, 900 Ah                                 |
| 15    | 50000 Watt  | 50000                                     | 60000                                | 240V,1500 Ah                                 |

**Only MNRE empanelled invertors and batteries to be used.**

## **A. MINIMAL TECHNICAL REQUIREMENTS/ STANDARDS**

### **1. SPV MODULES:**

- i. Only indigenous modules of reputed brand such as BEL, CEL, REIL, Tata BP Solar, Vikram Solar, or equivalent ( IEC Tested) shall only be used in the project.**
- ii. Crystalline high power/efficiency cells shall be used in the Solar Photovoltaic module.
- iii. The open circuit voltage of the PV modules under STC should be at least 21.0 Volts.
- iv. 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.
- v. The terminal box on the module shall be designed for long life out door operation in harsh environment should have a provision for opening for replacing the cable, if required.
- vi. The offered module shall be in accordance with the requirements of MNRE.
- vii. Latest edition of IEC 61215 edition II / IS 14286 for Crystalline and shall be certified by MNRE authorized test centre. The bidder shall submit appropriate certificates.
- viii. PV modules must qualify to IEC 61730 Part 1- requirements for construction &Part 2 – requirements for testing, for safety qualification.
- ix. Protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided and if required, blocking diode(s) may also be provided.

#### **x. 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,  $I_m$ ,  $V_m$  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) The RFID 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 .**

### **2 BATTERY**

Battery shall be flooded electrolyte Tubular Low Maintenance Lead Acid /VRLA / GEL type or maintenance free battery .The batteries should conform to IS 1651 / IS 13369/ IS 15549. A copy of the relevant test certificate for the battery should be furnished. The battery of reputed Indian make Exide, Amco, HBL, Luminious, Amar raja, Tata power, or equivalent (Tested by Central Electro-chemical research laboratory, CECRI, Tamil nadu or authorized test centre of MNRE ) shall only be used.

- i. Capacity of the battery bank shall not be less than as specified above at C10 rate.
  - ii. Battery shall have a design life expectancy of >5 years at 50% DOD at 27°C.

- iii. Battery terminal shall be provided with covers.
- iv. Suitable carrying handle shall be provided.
- v. Batteries shall be provided with micro porous vent plugs & acid level indicator.

### 3. Power Conditioning Unit (PCU) cum Invertor

- i. Invertors should include MPPT feature.
- ii. Should be PWM charger type.
- iii. It should conform to IEC 61683 / IS 61683 , IEC 60068-2 (1, 2, 14, 30) /Equivalent BIS Std.
- iv. Protection against overcharging and deep discharging of batteries should be provided in this unit. At the time of overcharging the SPV array should be fully or partially open circuit.
- v. All the switching shall be solid state if necessary electro mechanical relay may be used. It should be equipped with a reverse blocking diode/out off unit to prevent the battery discharging in night and in rainy seasons.
- vi. The unit should withstand the ambient temperature 0 to 55 degree C.
- vii. The charge controller should also have facility to charge the battery through AC mains.
- viii. The charge controller should be equipped with necessary electrical safety devices for safe operation of the system.
- ix. **The Solar Power Generator/Plants will have the facility of charging with grid electricity. Priority will be charging from solar systems. Accordingly the components wiring and connectors should be specified and provided.**
- x. Automatic change-over between solar system and AC main supply is to be incorporated.
- xi. PCU shall have following protection
  - Invertor over voltage
  - Invertor over load
  - Invertor over Temperature
  - PV under/over voltage current
  - Battery Reverse Polarity Protection
- xii. PCU shall have following displays:
  - Alpha numeric display with key pad
  - LED indications :
    - System on
    - Invertor on
    - Solar Charging
    - Mains charging
    - PV Present
    - Fault
- xiii Necessary earthing/ grounding is to be provided on the body of the invertor.
- a. The quality and standards of the system will be strictly adhering to the national/international standards specified as per MNRE Govt. of India norm.

## B. BALANCE OF SYSTEM (BOS) ITEMS/ COMPONENTS:

The BOS items / components of the SPV power plants/ systems deployed must conform to the latest edition of IEC/ Equivalent BIS Standards/ MNRE specifications / as specified below:

| BOS Item / System  | Applicable BIS /Equivalent IEC Standard Or MNRE Specifications  |  |
|--|---|--|
|  | Standard Description  | Standard Number  |
| Charge Controller/MPPT units   | Environmental Testing   | IEC 60068-2 (1,2,14,30) / Equivalent BIS Std.              |
| Power Conditioners/ Inverters**including MPPTand Protections.          | Efficiency Measurements   | IEC 61683 / IS 61683                                       |
|  | Environmental Testing   | IEC 60068-2 (1, 2, 14, 30) /Equivalent BIS Std.            |
| Storage Batteries  | General Requirements & Methods of Testing Tubular Lead Acid /VRLA/ GEL /Maintenance free Capacity Test Charge/Discharge Efficiency, Self-Discharge. | IS 1651/IS 13369/IS 15549                                  |
| Cables   | General Test and Measuring Method PVC insulated cables for working voltage up to and including 1100 V and UV resistant for outdoor installation     | IEC 60227 / IS 694<br>IEC 60502 / IS 1554 (Pt. I & II)     |
| Switches/Circuit Breakers/Connectors                                   | General Requirements Connectors –safety A.C. /D.C.  | IEC 60947 part I,II, III / IS 60947 Part I,II,III EN 50521 |
| Junction Boxes /Enclosures for inverters/Charge Controllers/Luminaries | General Requirements  | IP 54(for outdoor)/ IP 21(for indoor) as per IEC 529       |

\*\*In case if the Charge controller is in-built in the inverter, no separate IEC 62093 test is required and must additionally conform to the relevant national/international Electrical Safety Standards wherever applicable

## C. Mounting Structure

- i. The module & frame structure shall be mild steel, hot dipped galvanized (80 micron) with corrosion resistant painting for holding the PV modules.
- ii. There shall be a minimum air gap of 3+/- 0.3-cm between the facing edges of two adjacent modules on all sides.
- iii. Each panel frame structure shall be so fabricated as to be grouted on ground on its legs. The size of angle iron/C channel should not be less than 25X25X5 mm.
- iv. Each panel frame structure shall have inclination between 20- 30 degrees depending on the site location .A weather proof junction box as per the relevant ISI specifications, to be provided where the module terminals shall be interconnected and output taken.

- v. All nuts bolts, and fasteners should be made of stainless steel.
- vi. The structure should be designed to allow easy replacement of any module and shall be aligned with site requirement.
- vii. The structure should be designed for simple mechanical and electrical installations.
- viii. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels.
- ix. It will be designed to withstand severe cyclone/ storm with the speed max.200 Km/hr (STAD report may be required to be submitted) .
- x. The systems should be installed at ground level / roof top at least the height of 45Centimeter with a CC block of 30X30X30 Cm with each support.

**D. Battery Trolley/Rack**

**Battery rack** should be of acid resistant material to bear the required battery load Placement of battery should be such that maintenance of the battery could be carried out easily. The non-reactive acid proof mat should be provided around the floor space of battery bank.

**H. Electrical connections**

High quality ISI mark copper wires/cables of reputed makes are to be provided for connecting Solar Modules, from junction box to PCU, and Battery.

A suitable connection point shall be provided to the consumer from PCU, at a distance not more than 05 meters, from where consumer shall have its own wiring to the use points.

- I. Junction Boxes:** DCDB and ACDB should be provided with SPD and should have IP 65 protection for outdoor installation and IP 21 protection for indoor installation.

**For Power Plants above 10000 Watt capacity following will be mandatorily provided**

**I. Weather Station and Data logger (Remote Monitoring System – RMS)**

- 1 The system should be equipped with monitoring system for day to day operational monitoring of plant from UPNEDA head office, Lucknow and concerning districts sites.
- 2 Monitoring system shall have provision of providing data related to Solar irradiance horizontal and on the plane of solar modules, and temperature. Suitable software for energy calculation based on weather data is to be provided.
- 3 The data acquisition system shall measure necessary data for proper monitoring and evaluation of complete system as well as SPV module, Battery and PCU performance.
- 4 The SIM at site will be provided by the bidder and shall ensure to keep it in operation for 05 years.

## **J. OTHER FEATURES**

A toll free number (i.e. 1800 180 0005) of IVRS of UPNEDA and 14 digit UID number of minimum computer font size 72 or 13 mm (issued/provided by UPNEDA) is to be embossed/punch in front of battery box by contractor/ bidder, which in case of non-working/operational problems etc of system will be dialed by the beneficiary etc to lodge a complaint in respect of system problems. The IVRS will divert the complaint to Contractor/ bidder through E mail, SMS etc. The contractor/ bidder will have to rectify the same to make/ restore the system to working position within 72 hours in the warrantee period of 5 years, failing which the system may be get rectified on contractor/ bidder cost and the cost will be recovered by contractor/ bidders pending claims what so ever and appropriate action as per noncompliance etc of agreement will be considered/taken.

## **K INSTALLATION OF SYSTEM:**

The system should be properly installed at site. The SPV module mounting structure should be properly grouted depending upon the location and requirement of the site. The grouting should be such that it should withstand the maximum wind speed /storm. Adequate space should be provided behind the PV module/array for allowing un-obstructed air flow for passive cooling. Cables of appropriate size should be used to keep electrical losses to a bare minimum. Care should be taken to ensure that the battery is placed with appropriate leveling on a structurally sound surface. All wiring should be in a proper conduit or capping case. Wire should not be hanging loose. Any minor items which are not specifically included in the scope of supply but required for proper installation and efficient operation of the Solar Power Generator/Plant system, is to be provided by the manufacturer as per standards.

L Test certificates / reports for the BOS items/ components can be from any of the NABL/ IEC Accredited Testing Laboratories or MNRE approved test centers. The list of MNRE approved test centers will be reviewed and updated from time to time. List at Annexure 1

## **M WARRANTY**

The mechanical structures, electrical works including power conditioners/inverters/charge controllers/ maximum power point tracker units/distribution boards/digital meters/ switchgear/ storage batteries, etc. and overall workmanship of the SPV power generator/Plant system must

be warranted against any manufacturing/ design/ installation defects for a minimum period of 5 years.

**N. TRACEABILITY OF THE PRODUCT TO BE SUPPLIED**

In order to prevent the misuse of the product such as unauthorized sale or diversion to the open market, the following incorporation shall be made in the product.

- a) Engraving (or) Screen printing of UPNEDA at a suitable place on the main components viz SPV Panel, battery, PCU to be used in the installation of the solar power pack.
- b) The unique system ID number as provided by UPNEDA shall be permanently pasted (or) marked on each component of the system.



## 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 12 Years and 80% at the end of 25 years).
  - The mechanical structures, electrical components including battery and overall workmanship of the complete Solar PV Power Pack must be warranted against any manufacturing/ design/ installation defects 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.
- It is mandatory for the contractor to open an authorized service center in the concerned district before the supply/ installation of the system.
- Necessary maintenance spares for five years trouble free operation shall also be supplied with the system.
- The supplier 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 Comprehensive Maintenance (within warranty period) will include the total system including Battery etc whatsoever at site.
- It is an essential part of the contract that the bidder shall provide warranty of the system for 5 years. During the warranty following maintenance will required to be carried out by the contractor.
  1. Quarterly checking up keeping and replacement of the any component or subcomponents of the system for proper operation of the system.
  2. Repairing/replacement of all defective components and sub-components including battery of the system as per the requirement to ensure proper operation of the system.
- The scope of work includes repairing/replacement of power plant to make the system functional within warranty period whenever a complaint is lodged by the user at site. The contractor shall attend the same within a week. Apart from this any complaint registered/ service calls received / faults notified in the report generated by the IVRS should be attended to and the system should be repaired/ restored/ replaced within 4 days.
- In case of any damage or breakage of the component due to negligence or fault of beneficiary or theft etc, the same shall be replaced at users cost.
- In case of Solar PV module damaged due to natural calamity, contractor shall replace the same at his own cost, if required during warranty period.
- The safety and security of the system shall be sole responsibility of the user.

**PART- 6**  
e-tender No: UPNEDA-SPG /2017

**Technical BID**

|           | Description                                     | To be furnished by the Contractor/Bidder |
|-----------|---|--|
| <b>A.</b> | <b>Solar PV Module</b>                          |  |
| 1.        | Type of Module:<br>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>B.</b> | <b>Battery</b>                                  |  |
| 1.        | Manufacturer                                    |  |
| 2.        | Type  |  |
| 3.        | Capacity of Battery at C10                      |  |
| 4.        | Max DOD   |  |
| 5         | Charge efficiency                               |  |
| <b>C</b>  | <b>Battery Rack/Trolley</b>                     |  |
| 1         | Manufacturer                                    |  |
| 2         | Material  |  |
| <b>D</b>  | <b>AC Hybrid Solar Power Conditioning Unit</b>  |  |
| 1.        | Manufacturer :                                  |  |
| 2.        | Operating voltage (DC)                          |  |
| 3         | Operating voltage AC (pure sine wave)           |  |

|    |                                  |  |
|----|----------------------------------|--|
| 4  | THD                              |  |
| 5. | Details of Indicators provided   |  |
| 6. | Details of Protections provided  |  |
|    | i. Battery Over charge set value |  |
|    | ii. Deep discharge set value     |  |
|    | iii. Short Circuit               |  |
|    | iv. Open Circuit                 |  |
|    | v. Reverse polarity              |  |
|    | vi. Reverse current              |  |
|    | vii. Others                      |  |

(Signature of Bidder)  
with seal

**Solar Power Generator/Plant (With Battery Bank)**  
**PART-B**

e-tender NO. UPNEDA/SPP/2017

**FINANCIAL BID**

Name of the Firm: -----

Financial offer of Rate Contract for the Design, Supply, Installation, Commissioning, with 05 years warranty with comprehensive maintenance (in warrantee period including battery) of AC Hybrid Solar Power Generator/Plant as per scope of work, Tech. requirement, Specifications & terms and conditions etc of the tender.

| S..No | Description /Category | Unit Rate (Rs) | Unit Rates in Words (Rs) |
|-------|-----------------------|----------------|--------------------------|
| 1     | 1000 Watt             |                |                          |
| 2     | 1500 Watt             |                |                          |
| 3     | 2000 Watt             |                |                          |
| 4     | 2500Watt              |                |                          |
| 5     | 3000 Watt             |                |                          |
| 6     | 4000 Watt             |                |                          |
| 7     | 5000 Watt             |                |                          |
| 8     | 6000 Watt             |                |                          |
| 9     | 8000Watt              |                |                          |
| 10    | 10000Watt             |                |                          |
| 11    | 15000 Watt            |                |                          |
| 12    | 20000 Watt            |                |                          |
| 13    | 25000 Watt            |                |                          |
| 14    | 30000 Watt            |                |                          |
| 15    | 50000 Watt            |                |                          |

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.

## Annexure -Z

### Capacity Proposed in different Categories

| S..No | Category/Type of Solar power Generator/ Plant | No of Systems | Total Capacity (MW) |
|-------|---|---------------|---------------------|
| 1     | 1000 Watt                                     | 30            | 0.03                |
| 2     | 1500 Watt                                     | 25            | .0375               |
| 3     | 2000 Watt                                     | 50            | 0.1                 |
| 4     | 2500 Watt                                     | 25            | .0625               |
| 5     | 3000 Watt                                     | 50            | 0.15                |
| 6     | 4000 Watt                                     | 50            | 0.20                |
| 7     | 5000 Watt                                     | 50            | 0.25                |
| 8     | 6000 Watt                                     | 25            | 0.15                |
| 9     | 8000 Watt                                     | 15            | 0.12                |
| 9     | 10000 Watt                                    | 15            | 0.15                |
| 10    | 15000Watt                                     | 10            | 0.15                |
| 11    | 20000Watt                                     | 50            | 1.0                 |
| 12    | 25000 Watt                                    | 10            | 0.25                |
| 13    | 30000 Watt                                    | 15            | 0.45                |
| 14    | 50000 Watt                                    | 10            | 0.50                |
| 15    |   |               | 3.6                 |

