

e-tender Notice

Uttar Pradesh New and Renewable Energy Development Agency, (UPNEDA)

(Department of Additional Sources of Energy, Govt. of Uttar Pradesh)
Vibhuti Khand, Gomti Nagar, Lucknow U P

Mobile No. 9415609017/9415609015 TeleFax: 0522-2720779, 2720829
Project officer UPNEDA Bahraich No: 9415609042
Website:<http://upneda.org.in> E-Mail: compneda@rediffmail.com

Tender Number:- UPNEDA/SPV/ARSENIC/SPROW/2018-19/03

UPNEDA invites Online Bids from Prospective Bidder through e-tendering for the supply, installation, commissioning and 5 years comprehensive warranty maintenance of solar PV powered Arsenic removal plant along with water pump and water ATM system in **village Kansauji, Mihiprva and Bhatpurva, Tejwapur of District Bahraich** of Uttar Pradesh.

The tender document is available at e-Procurement website <http://etender.up.nic.in>. 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)	e-Bid submission end date & Time	24--06-2019 at 6.30AM
(b)	Online technical e-Bid opening date & time	25--06-2019 at 11.30AM
(c)	Online financial e-Bid opening tentative date & time (Only of technically qualified bidders)	31-06-2019 at 3.30 PM or as specified after opening of technical bid
(d)	Venue of opening of technical & financial e-Bids	UPNEDA Head Office, Vibhuti Khand, Gomti Nagar, Lucknow-226016
g	Tender Document Fees	23600/- (Twenty three thousand Six hundred only)
h	Earnest Money	100000/- (One Lakh Only)

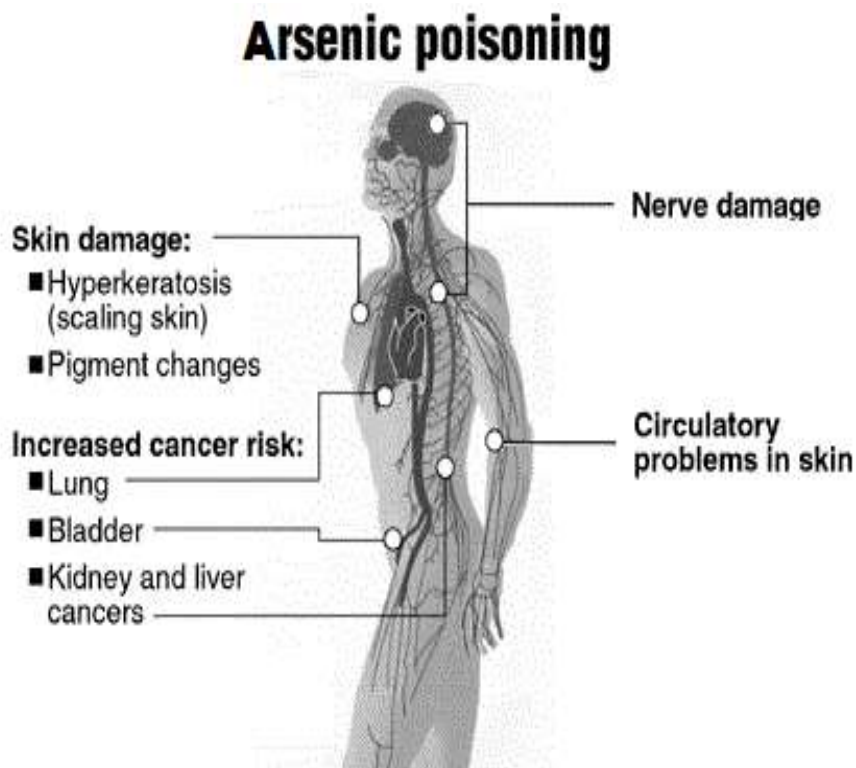
The bidders need to submit the proof/cost of e-Bid document fees and EMD as stated in the above table through Demand Draft as bid documents fees and bank guarantee as EMD in favor of Director Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA), payable at LUCKNOW. The scanned copy of the 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 vary. The 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

e-TENDER DOCUMENT (R)

DESIGN, SUPPLY, INSTALLATION, COMMISSIONING AND 5 YEARS COMPREHENSIVE WARRANTY OPERATION & MAINTENANCE OF SOLAR PV POWERED ARSENIC REMOVAL PLANT ALONG WITH, WATER PUMP AND WATER ATM SYSTEM IN 2 VILLAGES OF BAHRAICH DISTRICT OF UTTAR PRADESH

e-tender NO.- UPNEDA/SPV/ARSENIC/SPROW/2018-19/03



Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA)
(Deptt. of Additional Sources of Energy, Govt. of U.P.)
Vibhuti Khand, Gomti Nagar, Lucknow-U P
Tel.No. 91-0522-2720652, TeleFax: 0522-2720779, 2720829
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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)
Vibhuti Khand, Gomti Nagar, Lucknow- U. P.

Subject: -Offer in response to e-tender specification No: UPNEDA/SPV/ARSENIC/SPROW/2018-19/03

Sir,

We hereby submit our offer in full compliance with terms & conditions of the above e-tender. A 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 commission the tendered system in 6 months.

(Signature of Bidder)
With Seal

3. Check list of Annexures

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

Sl. N.	Annexure No	Particulars	Yes/No, Flag No.
1.	Annexure-I(a)	Details of Tender document fees (Demand Draft no, date, amount and bank name) for Rs. 23600/-	
2	Annexure-I(b) Annexure-2	Details of Earnest money (bank guarantee no. and date, (valid for four months) 1.1.1 A Registered Manufacturing Company/Firm/ Corporation in India of- Solar PV module /RO water purifier/Arsenic removal plant. (Conforming to relevant National / International Standards) OR 1.1.2 A PV System Integrator having at least 100 KW Solar Photovoltaic Systems/RO water should have been installed/commissioned.	
3.	Annexure-III	Following Test Certificates & Reports for components specified in technical bid	
	III(a)	i. SPV Modules a) IEC 61215 edition II/ IS 14286 for Crystalline Modules(Minimum Validity till March 2020)	
	III(b)	b) IEC 61730 Part 1 & 2(Minimum Validity till March 2020)	
	III(c)	c) STC Performance Report with IV curve – for offered module from MNRE authorized test Centre (Issued on or after 1st April,2016)	
	III(d)	ii. Pump – The pump should be tested by NISE /MNRE or NABAL authorized test Centre (Issued on or after 1st April,2016)	
	III(e)	iii. Test report of Arsenic removal plant installed by firm if any	
5.	Annexure- Annexure-V	A copy of valid GST registration certificate Overall Average Annual Turnover of the Company/Firm/ Corporation in the last three financial years 2015-16, 2016-17 and 2017-18 (A summarized sheet of turnover of last three Financial Years certified by registered CA)	
	Annexure-	A summarized sheet of cumulative experience in PV	
8	Annexure- VI	Cumulative Experience (for year 2015-16. 2016-17 and 2017-18) of the Bidder in executing contracts of RO water purifier/ Solar Photovoltaic Systems /(Installed & Commissioned) should be at least 25% of tendered vale i.e for 25 Lakhs. A summarized sheet by registered CA	

(Signature of Bidder)
With Seal

*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.

4. Particulars of e-tender

1.	e-tender no.	UPNEDA/SPV/ARSENIC/SPROW/ 2018-19/03
2.	Particulars of the work	Design, supply, installation, commissioning and 5 years comprehensive warranty operation and maintenance of solar pv powered arsenic removal plant, water pump and water ATM system in 2 villages of Bahraich district of Uttar Pradesh
3.	Completion Period of work	Within 6 months from the date of award of Work.
4.	Period of validity of rates for acceptance	3 months from opening of financial bid
5.	Place of opening of e-tender	UPNEDA, Head Office, Vibhuti Khand, Gomti 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 bidders'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. However, Director, UPNEDA reserves the right to extend the date of opening of Financial Bid in unavoidable circumstances.
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 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, 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	
8	Name and address of the Indian/foreign Collaboration if any	
9	Have anything/extra other than price of items (as mentioned in price Schedule) been written in the price schedule.	
10	Have the Bidder to pay arrears of income tax? If yes up to what amount?	
11	Have the Bidder ever been debarred By any Govt. Deptt. / Undertaking, for undertaking any work?	
12	Details of offer (please mention number of pages and number of Drawings in the hard copy)	
13	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/SPV/ARSENIC/SPROW/2018-19/03)

I/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. No any criminal case against bidder is pending in any court of competent jurisdiction in anywhere.
12. This offer shall remain valid for acceptance for 3 Months from the date of opening of financial bid of e-tender.
13. The Bidder gives the assurance to execute the e-tendered work as per specifications terms and conditions.
14. The Bidder confirms the capability to supply, install and carryout 10 years comprehensive warranty maintenance of tendered Systems in six month.

(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 Annexure
- 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 Finalization 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 AND PRE BID CONFERENCE:

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.

UPNEDA's response will be uploaded on the website www.upneda.org.in; <http://etender.up.nic.in>

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

The Bidder(s) or their authorized representative(s) is/are invited to attend pre-bid meeting(s), UPNEDA will make all efforts to respond to the queries during the Pre Bid Meeting to be held on 12 th Jun, 2019 at 12.30 PM at UPNEDA Head Office, Lucknow. The purpose of the pre-bid meeting will be to clarify any issues regarding the Bid. Bidders are requested to submit such issues latest by 11th June 2019 up to 5:00 PM through e-mail (compneda@rediffmail.com/dirupneda@gmail.com)

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

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: <http://etender.up.nic.in>. All are requested to remain updated with the website. No separate reply/intimation will be given elsewhere.

(Signature of Bidder)
with SEAL

SECTION 2: ELIGIBILITY CONDITIONS

Eligibility Conditions for Bidders

1. Minimum Eligibility

Conditions: The Bidders should be

1.1.1 A Registered Manufacturing Company/Firm/ Corporation in India of- SPV Cells / Modules or PV System Electronics or RO water purifier (Conforming to relevant National / International Standards)

OR

1.1.2 A PV System Integrator having at least 100 KW Solar Photovoltaic Systems/R O Water plant should have been installed / commissioned. .

1.2 Cumulative Experience (for year 2015-16, 2016-17 and 2017-18) of the Bidder in executing contracts of Solar Photovoltaic Systems /RO water purifier/ (Installed & Commissioned) should be at least 25% of tendered vale i.e for 25 Lakhs.

1.3 The Bidder should have valid GST registration Number. A copy of which should be enclosed

1.4 Overall Average Annual Turnover of the Company/Firm/ Corporation in the last three financial years FY 2015-16, 2016-17, and 2017-18 should be at least Rs. 30 Lakh (Thirty lakhs only). (This must be the individual Company's turnover and not that of any group of Companies). (Details of turnover of last three years with average turnover certified be registered Chartered Accounted should be compulsorily enclosed

Signature of Bidder
with SEAL

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 English 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 Annexures as provided in e-tender document
 - (e) A copy of the 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 only online in the appropriate Financial Bid schedule.

3.3.2 DUTIES AND TAXES

The price quoted should include all taxes what so ever as applicable. A Bidder shall be entirely responsible for all taxes, duties, license fees etc. All taxes as per Government income tax & other tax norms will be payable by the Bidder. Central & State GST and TDS will be deducted from the payments of the Bidder as per the prevalent laws and rules of Government of India and Government of Uttar Pradesh in this regard and as applicable.

- 3.3.3 If any new tax/duty is belied during the Contract period, the same shall be borne by the Contractor exclusively.

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/DD/FD valid for a period of 18 months from the date of execution of agreement. The Ernest Money and Performance Security may be submitted in the form of DD/FDR/Bank Guarantee issued from Nationalized bank, SBI , Public sector Bank as well Private Scheduled bank of RBI. in favor of "Director, UPNEDA". The aforesaid Bank Guarantee shall be furnished prior to the execution of agreement. This Bank Guarantee shall be only released after completion of all supply, installation and commissioning of work order. If the work will not be completed within time this BG shall be forfeited without any notice. No interest shall be paid on deposited performance security.

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.

3.7 BID SECURITY (Earnest Money)

The bidder shall furnish, as part of its bid, bid security of Rs. 1.00 lakh in the form of Bank guarantee issued by a nationalized bank or scheduled bank of RBI. The bank guarantee shall be valid for a period of 4 (Four) months from the opening of technical bid. The earnest money is exempted for Micro and Small Industry setup and registered in Uttar Pradesh. The DIC /NIC certificates issued from Directorate of industries/ NSIC is required for Micro and Small firms. The certificate should be submitted with tender document to get the exemptions.

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

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

3.7.3 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 Agreement within stipulated period.

3.7.5 EMD of successful bidder shall only be released after signing of Agreement and submission of performance guarantee as per clause 3.5.1

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.

3.8.5 Micro and small industries based and registered in Uttar Pradesh are exempted from depositing the earnest money and performance security. Only certificate issued by district industries office/NSIC shall be taken as proof for MSME. The MSME setup must be in Uttar Pradesh.

(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 Limited. (UPLC), 10, Ashok Marg, Lucknow, (Uttar Pradesh)/NIC.

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/Bank Draft should be enclosed.

4.1.3 The Bidder should upload Financial Bid in Second part. Second part (part-B) should contain Financial bid only. Financial Bid 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-B except price.

4.1.4 The original copy of uploaded document i.e. First part (Part-A) duly signed each pages by the bidder along with requisite tender fees and earnest money original document is to be submitted by Post /courier/by hand to UPNEDA HQ before opening of technical bid_date and time. Without this document the online technical bid of those firms will not be opened.

4.2 PERIOD OF AGREEMENT: A formal agreement for a period of 11 (eleven) years 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 bidder in the date; time and address specified in the e-tender notice/ tender documents.

4.4 EXPENSES OF AGREEMENT: Stamp duty chargeable on the Agreement shall be borne by Successful Bidder.

(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 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 technically Qualified.

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. 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 evaluated.

6.2.1. A) The lowest rate (i.e. L-1) received (and in turn approved by the competent authority) would be the “Approved Rate” and shall be allotted to the lowest bidder.

6.2.2. Training of the users and entrepreneurs/ operators will be arranged by the contractor/ bidder.

6.2.3. 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.

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

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

6.5 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.

6.6 CONTRACT

Before execution of the work, an 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, earnest money will be forfeited.

Signature of Bidder

PART 3: GENERAL CONDITIONS OF CONTRACT

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

DEFINITIONS

1.2. "UPNEDA" shall be represented through Director of UPNEDA or his authorized representative UPNEDA shall include its successors 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.

1.3 The work shall be completed on turnkey basis within six months from the date of placement of work order. 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 The Contractor, (i.e. the Successful Bidder) is not allowed to operate in the State of Uttar Pradesh through any dealer for execution of the orders placed or sublet this order to other firms. It will be the sole responsibility of the Contractor, 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.

1.5 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 Agreement, 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 of delay until actual performance up to a maximum deduction of 10% of the delayed services. For the purpose of calculation of delay part of the week shall be treated as week. Once the maximum is reached, UPNEDA may assess the progress of work and take decision where the work order is to be cancelled, forfeit the performance security and debar/blacklist the firm or to continue with time extension with further penalty.

2.2 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 Guarantee.

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 UPNEDA, in whose premises the work has to be done. "UPNEDA" shall have no liability in this regard.

4 FORCE MAJEURE

4.1 Notwithstanding any provisions contained in the Agreement the Contractor shall not be liable for the forfeiture of its Performance Guarantee, liquidated damages termination for default, if he is

unable to fulfill his obligation under the Agreement due to event of force majeure circumstances.

- 4.2 For purpose of clause 4.1 "Force majeure" means an event beyond the control of the Contractor and not involving the contractor 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 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 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 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, in the connection with the agreement except as to matters, the decisions for which have been specifically provided in the Agreement 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/Department, government of Uttar Pradesh or a person nominated by him not below the rank of Special 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

CUT-DOWN OF WORK

- 9 "UPNEDA" may at any time by notice in writing to the Contractor either stops the work all together or reduce or cut it down. If the work is stopped all together, the Contractor 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 binding on the contractor/ bidder. If the work is cut down the Contractor will not be paid any compensation whatever for the loss or profit which he might have made if he had been allowed to complete all the work included in the Agreement.

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 test the “UPNEDA” required

10.3 INSPECTION AT WORKS.

10.3.1 The “UPNEDA”, and its duly authorized representative shall have at all reasonable times access to the Contractor 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 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 is required to get the entire lot of the ordered material inspected at one time, before the supply of the materials. In case the Contractor fails to get the entire lot inspected at one time, the total expenses of the further inspection will be borne by the Contractor.

10.3.4 UPNEDA will bear the inspection cost at only one manufacturing plant. If a component is produced in more than one location, then the cost of positioning the inspection in the 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 in respect of the agreed quality assurance programme forming a part of the contract.

11. WARRANTY

11.1 The Contractor shall warrant as per standards for quality that anything to be furnished shall be new, free from all defects, faults in material and 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 the specifications, drawing or samples, if any and shall if operable, operate properly. Nothing in clause 10 above shall in any way release the Contractor from any guarantee or other obligations under the Agreement..

11.2 Performance of Equipment: In addition to the warranty as already provided, the Contractor 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 Contractors cost when called upon to do so by the “UPNEDA”

11.3 The Warranty period shall be 25 Years for the PV modules and 10 years for complete system from the date of commissioning and handing over of the system. The Contractor shall rectify defects developed in the system within Warranty period promptly. In case the defects are not rectified within a 3 days of the receipt of the complaint by the Contractor “UPNEDA” shall have full liberty to restore the system in working condition. The expenditure so incurred by “UPNEDA” shall be deducted from the Contractor pending claims, security deposit or in other law full manner.

11.4 Since the maintenance of the system may also be taken up by the Contractor after expiry of 10

years of warranty period if the end user/"UPNEDA" so desires, the Contractor shall take up annual maintenance of the installed system.

11.5 The Contractor 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 at his specified addresses shall be deemed to have been delivered to the Contractor.

13. Any work which is not covered under the Agreement but is essentially required for the completion of job (To the satisfaction of UPNEDA) shall be carried out by the contractor as extra item and which payment shall be made separately at the rates decided by UPNEDA.

14. The work shall be carried out by the Contractor as per design and drawings approved by "UPNEDA". Wherever necessary, the Contractor shall submit relevant designs and drawings for approval of "UPNEDA", 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.

15. The Contractor shall provide one copy system pass book containing instruction manual/ routine maintenance manual and maintenance record of the systems. The pass book shall be kept with each plant in custody of operator.

The following minimum details must be provided with manual:

- (a) About the complete system including PV modules, Pump and RO Water
- (b) Do's and Don'ts
- (c) Clear instructions on regular maintenance and troubleshooting of the system
- (d) Name & address of the contact person in case of non-functioning of the system.

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 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 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 shall be held responsible for all damage due to improper packing.

18.2 The Contractor 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, Wharfage, etc.

All demurrage, wharfage and other expenses incurred due to delayed clearance of the material or any

other reason shall be to the account of the Contractor.

20. INSURANCE

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

21. *The solar module shall be insured for damaged, theft, fire etc, for 5 years under warranty period. The cost of insurance shall be included in the price bid.*

22. TRANSPORTATION

The Contractor is required under the contract to deliver the goods to the site.

22 TERMINATION FOR INSOLVENCY

22.1 "UPNEDA" may at any time terminate the Agreement by giving written notice to the Contractor 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".

22.2 The Agreement shall be terminated by UPNEDA by giving days' notice to the Contractor on the following grounds:

- (a) Contractor has committed breach of any covenants of the Agreement.
- (b) Rendering of unsatisfactory services by the Contractor.

22.3 UPNEDA shall not be liable to pay any compensation to the Contractor for termination of Agreement on the grounds mentioned in this clause 22.

23. ABANDONMENT OF CONTRACT

The "UPNEDA", may by written notice sent to the Contractor/ Bidder, abandon 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 etc. A supplier/ contractor/ bidder shall be entirely responsible for all taxes, duties, license fees, etc. All taxes payable as per Government income tax & GST 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 or technical details such as Voc, Isc, , FF, cell efficiency and Pmax etc shall be supplied along-with consignment and copy should be sent along with each system for records.

27.2. The Contractor/ Bidder in consultation with concerned Project Officer of “UPNEDA” will conduct training programme for users.

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 5 years O& M the system will be handed over to the concerned village Panchayat as per direction of UPNEDA

27.5 It shall be the sole responsibility of the Contractor/ Bidder to get verified the quality and quantity of the supplied material at the site of delivery.

27.6 The contractor shall install a display board of minimum size 4 feet by 3 feet. The content on display board shall be got approved by UPNEDA.

28. PAYMENTS:

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

45% of the ordered value shall be treated as Part supply of material and paid 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) 40% of the ordered value in which 25% will be treated as supply of balance of material and 15% as installation cost and shall be paid after establishing and submitting documentary proof of service center, installation and commissioning of the system along with the Joint Commissioning & handing over certificate, indicating bill of material and successful commissioning duly countersigned by the designated officer and end user.

ii) The balance 15% payment shall be billed as AMC charges on annual basis kept as security deposit and will be released @ 1.5% at the end of each year for 10 years on satisfactory performance and timely submission of quarterly performance report. In case of advance payment of AMC charges due bill of 10 years to be made against the BG of 1,2,3,4 ...and 10 year. The BG should be valid of more than 3 month for respective year. The bank guarantee shall be invoked in case of failure of meeting the performance of the systems as per agreement.

29. In case of any ambiguity in interpretation of any of the provisions of the tender, the decision of “UPNEDA” shall be final.

30. To ensure the water quality apart from daily batch testing, the water quality should be tested on every 6 month or randomly as desired by UPNEDA from the NABAL authorized lab. The name of the lab for testing will be communicated from time to time.

31. The disposal of waste material including Arsenic should be in proper manner as per the guidelines of Ministry of Environment and Forrest, Government of India for its proper disposals and will be the full responsibility of firm. In case the disposal of waste material is not as per the norms, the UPNEDA will take appropriate action in this regard. The action may lead to the blacklisting of firm.

(Signature of Bidder)
with seal

SCOPE OF WORK AND TECHNICAL SPECIFICATIONS

SCOPE OF WORK

The scope of work includes design, supply, installation, commissioning of Solar power arsenic removal plants required purification equipment to make the water drinkable as per IS 10500-2012, Water ATM, One submersible Water Pump, and overhead tank etc. and comprehensive operation and maintenance for 5 years of warranty period in District Bahraich of Uttar Pradesh as per the following:-

1. Checking the Raw water quality from NABL lab and design the system based on the raw water quality and considering Arsenic contamination as 500 PPB (0.5ppm).
2. Engineering, Supply, Erection and commissioning of the 5000 Ltr per day Arsenic removal Plant (using solar energy).
3. Design, Supply Erection and Commissioning of the Solar Power plant for the running of 5000 Ltrs per day Aresnic removal plant.
4. Related Civil work, piping and any other work/infrastructure required to be undertaken to complete the operational plant.
5. Design supply and commissioning of Lab equipment required to maintain the purity of the water for the life of the plant.
6. Comprehensive O&M including supply of spares and consumable for 10 years for Arsenic removal and solar plant.

General description of the plant

1. Capacity of the plant shall be 10000 litre of treated water per day and 5000 litre will be treated through solar considering solar is available average of around 4-5 hours per day.
2. System to be designed to remove arsenic up to 500 ppb (0.5 ppm) to bring down to safe level of less than 10ppb (0.01ppm).
3. The Purified water shall be required to conform to IS: 10500-2012 drinking water specification.
4. The complete plant to be designed to operate on solar only. Energy storage system to be included to enable continuous operation of the plant to produce 5000 Ltrs of drinkable water per day even on one non-solar days.
5. The Raw water shall be drawn from bore well at the site.
6. **Bidders are requested to visit the sites to enable them to understand the raw water quality available at site to design the plant accordingly.**

GENERAL TECHNICAL SPECIFICATION:

Brief Description of the Technology

Electro-Chemical Arsenic Remediation (ECAR) uses electricity to continuously dissolve an iron electrode forming a type of rust in the water. Arsenic in water binds to the rust particles, which can then be removed. The rust particles are created electrochemically in situ to bind arsenic in water. The purified water then needs to be further treated to remove other impurities to make it drinkable as per required IS standards. If any, other technology may be used for which detailed description is to be submitted.

Operational Process

1. The water will be taken from existing bore well using solar submersible pump.
2. The raw water from the pump shall be stored in Raw water Storage Tank.
3. The water from Raw water storage tank shall be taken to Reactor(s) through pipes by gravity.
4. After reaction time is over, the treated water from Reactor(s) shall be taken to Flocculation system and then to Tube settler to remove suspended solids particles.
5. The clean water from tube settler shall be collected in Intermediate Tank(s).
6. Finally clean water from Intermediate Tank(s) shall pass through required water purification system to remove other impurities and collected in Safe drinking water Tank.
7. The drinking water should be dispensed through water ATM. The water ATM should be installed at various locations in the village to cover the entire population within easy approach. The minimum water ATM in a village should be 5 numbers; it may increase depending the size of village. The ATM should be operated through the Cards distributed to village households.
8. The dry Sludge shall be stored and safely disposed as per the central/state government norms.
9. Operation of the plant shall be through a centralized operator console with required indications, switches and pushbuttons. The sequence operation shall be preferable through PLC.

The process flow diagram is enclosed at annexure-1

MINIMUM TECHNICAL REQUIREMENTS / STANDARDS:

Equipment Specification

- i) **Solar Submersible Pump**: Solar submersible pump of suitable model shall be installed inside existing bore well. Water discharge shall be 20000 litres in 4 – 5 hours' time through an automated level sensor system so that it can be automatically filled throughout the day basis on solar availability.
 Model: Model-V of MNRE latest specification;
 Power - 3HP AC submersible pump complete with inverter;
 Shut off dynamic head: 100 m;
 Discharge: 39000 litres per day @ 70 metre head;
- ii) **Raw Water Storage Tank**:
 Raw water storage tank(s) shall be supplied having following specifications.
 Capacity: 12,000 Litre
 Model: minimum 3 layer food grade HDPE material for drinking water storage
 Make: Sintex, Patton, Supreme, Equiv.
- iii) **Reactor**: Reactor shall be properly designed with all required accessories for its efficient functioning of arsenic removal.
 MOC: 4 mm thickness Mild Steel plates; Epoxy coated inside & outside
 Volume: Volume of the reactor(s) shall be of minimum 1.25 times of daily plant capacity.

- iv) Water Transfer Pump: The pump(s) shall be to transfer water from reactor(s) to immediate Intermediate Tank(s).
Type: AC centrifugal
Discharge: Discharge of the pump shall be considered basis on the size and volume of the reactor(s). Discharge volume shall be of minimum 3.5 times of the volume of reactor.
MOC: Pump body and shaft shall be SS 304; Impeller shall be SS or noryl material.
- v) 1st Intermediate Tank:
Intermediate storage tank(s) shall be supplied having following specifications.
Capacity: 6,000 Litres
Model: minimum 3 layer food grade HDPE material for drinking water storage.
Make: Sintex, Patton, Supreme, Equiv.
- vi) Dosing Pump:
Dosing pump(s) shall be provided for dosing of required chemicals for flocculation of suspended solids. One no. of Dosing chemical drums of capacity 100 litre shall be supplied with each dosing pump.
Type: AC diaphragm operated
Capacity: 6 LPH
Make: Milton Roy, Aventura, Initiative, Equiv.
- vii) Flocculation chamber:
Flocculation Chamber shall be properly designed with all required accessories for its efficient functioning.
MOC: 4 mm thickness Mild Steel plates; Epoxy coated inside & outside
Volume: As designed for best performance
Accessories: Suitable agitator fitted with AC geared motor of required RPM (rotations per minute).
- viii) Tube settler:
Tube settler shall be provided after flocculation chamber for settling of flocculated solids. Tube settler shall be of appropriate size with a typical overflow rate of 10 - 12 m³/m².day with suitable tube settler media in required quantities. Inside shall be epoxy coated. Design engineering of the tube settler shall be considered in such a way so that post tube settler water turbidity must be below 5 NTU always.
MOC: 4 mm thickness Mild Steel plates; Epoxy coated inside & outside
Size and design: As designed for best performance
Accessories: Tube settler media, launder, distributor, valves etc
- ix) Sludge bed:
A 3' x 3' both sided PCC brick walled over the ground chamber shall be constructed where layers of pebbles and sand shall be laid inside which shall be used as sludge bed. The concentrate from the hopper bottom of tube settler shall be discharged time to time

- to this sludge bed to accumulate sludge on the surface of the sludge bed. Dried sludge shall be stored
- x) Clear water pit and pump: From the bottom of the sludge bed chamber there shall be a small opening from which clear water can come out and shall be stored inside a small clear water pit. A suitable AC pump shall be provided to lift the clear water and to transfer to the 1st Intermediate Tank. The pump shall be provided with automatic level sensor arrangements so that whenever there is sufficient water inside the pit, it can automatically transfer the water to the 1st intermediate tank.
- xi) 2nd Intermediate Tank:
Clear water from Tube settler shall be stored inside an Intermediate Tank(s).
Capacity: 1,000 Litres
Model: minimum 3 layer food grade HDPE material for drinking water storage.
Make: Sintex, Patton, Supreme, Equiv.
- xii) Water transfer pump:
The pump(s) shall be operated to transfer water from Intermediate Tank(s) to final water treatment processes.
Type: AC centrifugal
Discharge: Discharge rate shall be suitable of producing water of one batch volume water within 5 hours of solar availability.
MOC: Pump body and shaft shall be SS 304; Impeller shall be SS or noryl material.
Make: Kirloskar, CRI, Shakti, Equiv.
- xiii) Post Tube-settler purification stages: Water taken from 2nd Intermediate Tank shall be passed through required water treatment columns to achieve physic-chemical and microbiological requirements of IS 10500 : 2012 drinking water specifications. An automated level sensor based system shall be provided to transfer the water from intermediate tank to final water storage tank through the final water treatment processes like sand filter, carbon filter, UV, Ozone etc.
- xiv) Final Treated Water Storage Tank:
Final treated water storage tank(s) shall be supplied having following specifications.
Capacity: 12,000 Litre
Model: minimum 3 layer food grade HDPE material for drinking water storage
Make: Sintex, Patton, Supreme, Equiv.
- xv) Automatic card based water dispensing system: 5 no. of Automatic Dispensing Units (ADU) shall be supplied and connected with the final water storage tanks to dispense drinking water to the community people. Two thousand RFID cards or as per requirement of the villagers shall be provided with the ADUs for distribution amongst community people for collection of water.

- xvi) Ozonator: An ozonator (5g/hour) with all of its accessories shall be supplied for disinfection and cleaning of water bottles brought by the community people.

Electrical Specification of Electrochemical Arsenic Removal Plant:

The plant should be capable of running completely by solar system along with one day (running time required for 5000 liters of purified water) autonomy through Battery.

- The plant should have solar panel of **minimum 12KWp**.
- The Solar Panels shall be connected to Inverter through proper Array Junction Boxes (AJBs) complete with surge protection and individual fuse protection and disconnection.
- The output of the AJB shall be taken to MPPT driven solar single phase inverter of appropriate rating with battery, capable to fulfill the AC electrical power of the plant with the required autonomy.
- The plant lighting/utility power supply shall be fed through same ACDB, however, separate Light DB shall be provided for the same.
- The Raw water solar pump also shall be powered from the same solar plants, with automatic provision to switch off the VFD, whenever the raw water tank is full.

Solar PV Power Plant:

The Solar panel should be mounted on the roof of the plant. The components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable. Solar PV system shall consist of following major equipment/components.

- Solar PV modules consisting of required number of Crystalline PV cells.
- Power Conditioning Unit with Remote Monitoring System
- Battery
- Mounting structures
- Junction Boxes.
- Earthing and lightening protections.
- IR/UV protected PVC Cables, pipes and accessories

SOLAR PHOTOVOLTAIC MODULES:

Solar PV modules should be of the crystalline silicon type, manufactured in India. Detailed specifications of the solar PV modules are given below

<i>Type</i>	Crystalline silicon of 72 cell
<i>Origin</i>	Manufactured in India
<i>Efficiency</i>	>= 14%
<i>Fill factor</i>	>= 70%
<i>warranty</i>	Panel output (W_p) capacity to be >=90% at the end of 12 years and >=80% of at the end of 25 years.
<i>Module frame</i>	Non-corrosive and electrically compatible with the mounting structure material

<i>Termination box</i>	Thermo-plastic, IP 65, UV resistant
<i>Blocking diodes</i>	Schottky type
<i>Module minimum rated power</i>	The nominal power of a single PV module shall not be less than 250Wp.
<i>Identification tag for each solar module</i>	Shall be provided inside the module and must be able to withstand environmental conditions and last the lifetime of the solar module.
<i>Identification tag data</i>	a) Name of the manufacturer with logo b) Month and year of manufacture c) Model No (Should consists of the voltage and rate tage) d)Module serial number e) Made in India
<i>Power output rating</i>	To be given for standard test conditions (STC). I-V curve of the each module shall be submitted.
<i>Compliance with standards and codes</i>	IEC 61215 / IS 14286 IEC 61730 Part 1 and 2
<i>Salt Mist Corrosion Testing</i>	As per IEC 61701

- The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid.
- The rated output power of any supplied module shall have tolerance of +/- 3%.
- The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.

The solar module must be from ALMM list approved by MNRE from effective date of implementation as per MNRE order no 283/54/2018-Grid solar dated 3rd Jan 2019 or its latest amendments

6.2 Solar PV Mounting Structure

The PV modules shall be mounted on fixed metallic structures having adequate strength and as per specifications given below which can withstand the load of the modules and high wind velocities. It may be mounted on roof of the building.

6.3 Detailed specifications for the mounting structure are given below:

Wind Velocity Withstand Capacity	150Km/Hour
Structure Material	Aluminum
Bolts, nuts, clamps	SS 304
Mounting arrangement	Mounting directly on plant Roof ensuring stability and wind withstand Capability. Wind breakers shall be provided to preven wind shear from bottom of the modules.
Access to panel Cleaning	Suitable cat ladder from both side of structure shall be provided. Suitable walkway in the center of the module array shall be provided with hand rails to enable

	easy cleaning and maintenance.
Panel Tilt angle	North – south orientation with a fixed tilt angle 27-30 deg.

Solar Array Fuse

The cables from the array strings to the solar grid inverters shall be provided with DC fuse protection. Fuses shall have a voltage rating and current rating as required. The fuse shall have DIN rail mountable fuse holders and shall be housed in thermoplastic IP 65 enclosures with transparent covers. The outgoing dis-connector shall be suitable rated for DC application.

Solar Inverter

Typical technical features of the inverter shall be as follows:

Considering the future requirement and power situation of the plant, the specification is given for Grid connected solar inverter with battery backup.

However, presently the Plant complete design is to enable it to work only on solar and back-up batteries.

No of Phases		Single phase 220V
A.	SOLAR CHARGE CONTROLLER (SCC)	
1	Charge Controller Type	MPPT
2	PV Nominal Capacity (Total) (kWp)	Same rating as the Inverter Rating
3	No of MPPT Channels	Min 1
4	Battery Type Supported	LMLA/VRLA
5	Min. Battery AH Required (AH)	to be filled by the bidder
6	Min Charging Efficiency (%)	89%
B.	SOLAR INVERTER	
1	Switching Element	IGBT
2	No. Phases/Connection Type	1 Phase/2 Wire
3	Battery back up Capacity	Equivalent one day of rated operation of the plant
4	Nominal Battery Voltage (VDC)	220V DC
5	Nominal Output Voltage/Frequency (volts/Hz)	240/50 Hz for Single Phase
6	Nominal Capacity (KW)	10 Kw Rated capacity at 0.8 PF
7	Voltage Regulation (in Standalone Mode) (%)	+/- 2
9	Frequency Regulation (in Standalone Mode) (Hz)	+/- 0.5
10	THD (%)	< than 5
11	Efficiency: Peak/100% Load/20% Load (%)	>88 / >85 / >80
12	Load Power Factor	0.8 lag to unity
13	Over Loads: 60 secs/50 secs/5 secs (%)	110 / 125 / 150

14	Min Phase imbalance capability (%)	30
15	Auto Bypass Feature	To Be provided
D.	Indication & Protection	
1	Type of User Interface with Key PAD	LCD based UI interface with Alphanumeric indications
2	Display Parameters	Battery voltage/current
3	Display Parameters Communication with other system	Solar Panel Voltage/current/Power
		Grid voltage/Current/frequency/power/power factor
		Emergency Load voltage/current/power
		System fault including temperature and active faults
		Solar power generated in day/till the time
E.	Isolating Switches	
2	Load side disconnection	To be provided
3	Battery side disconnection	To be provided
4	PV side disconnection	To be provided
F.	Others	
1	Degree of Protection	Min IP 54
2	Operating Temperature	0-55 Deg C upto 45 Deg C no deration
3	Humidity	95% non condensing
4	Cooling method	Forced cooled with temperature controlled cooling fans or natural cooled
G.	Certification	
1	Inv Efficiency as per IEC 61683	Test certificates to be provided
2	MPPT efficiency as per EN50530	Test certificates to be provided
4	Inverter Islanding as per IEC 62116	Test certificates to be provided
H.	Operational Requirements	

Battery Specification

The voltage of battery may be selected according to the PCU design. Battery shall be lithium Ferro phosphate (LifePo4) with capacity should be 220 V, 160Ah. The battery should be warranted for minimum 10 years. The battery should be installed near the Inverter in a separate location completely isolated from the plant area on a Battery rack.. The cell and battery should be got tested as per IEC6233-2012 or BIS specifications with MNRE/NABAL accredited center

CIVIL Work specifications

1. Complete area allocated for the plant shall be made plain and bushes shall be removed to enable plant construction. However if trees are coming in main plant

area, same shall be removed as per law; however, if the trees are coming within fencing but not in main plant area, then same shall be left as it is with minor trimming.

2. The entire space as available at site shall be fenced by barbed wire with suitable main gate to allow trucks and trollies.
3. All around the plant main building peripheral road with pebble shall be made, which shall be at least 6 inch above the ground to avoid water on road during rainy season.
4. A shed of size 33' x 28' x 26' shall be constructed with a roof of proper inclination where solar module shall be installed using the shed inclination.
5. Cat ladder with elevated platform on shed across the length of the shed for cleaning the module complete with water pipe line.
6. Solar street lights to be installed at the courtyard of the plant

Main Plant area civil work:

1. Providing footing of min size of 900X 900X 1200 mm & Erecting RCC M20 Grade column of size 600 X 450mm by providing reinforcement of 16mm dia TMT bar of suitable qty. for each column duly clamped with 8 mm dia ring 200c/c.
2. Min no of columns shall be 20 nos
3. Providing plinth beam of size 300x250mm at a depth of 750mm below floor level after excavation providing PCC 1:4:8 100mm thickness & RCC M20 grade on four side of plinth beam by providing 12mm dia main bar in 6no. Clamped with 8mm dia at a distance of 200mm c/c.
4. Providing Brick work 9" thickness up to 1.2mtr above plinth beam on all four side of shed including plaster of both side of wall.
5. Providing PCC 1:4:8 for Flooring of suitable thickness suitable for industrial use.
6. Providing RCC M20 for Flooring Including foundation At a height of 0.2 mtr from floor level. With reinforcement in floor 10mm dia 200 mm C/C. Providing Floor Hardener @2kg /sqmtr
7. Proper slop and water drains shall be planned according to layout, so that floor of the plant can be cleaned and water logging is avoided.
8. The drainage water shall be brought to suitable place or connected to existing ponds as per site condition.
9. Providing OBD /Enamel Paint for walls and MS Structure.
10. Fabrication of Ms mezzanine of capable of bearing load at @1600kg/Sqmtr with structural material as below.
 - a. Vertical column ISMC 200x100. @3.3mtr each.
 - b. Providing ISMC 200x100mm of length 6.7mtr each. = 4 no.
 - c. Providing ISMC 200 x100mm of length 5.8mtr each = 5 no.
 - d. Providing Cheqred plate of 6mm thickness upon above structure duly anchored with 20mm base plates of size 400x300, top plate 400x300mm 12 mm thickness. clate angle 75x75x6mm on all joints 200mm length.
 - e. Providing MS Stair to approach MS Mezzanine & MS Railing 40mm dia Pipe up to 1.2 mtr height on all sides of mezzanine & duly enamel painted top & Bottom.
 - f. The Lab, office & Water ATM Spaces

- i. Providing aluminum Partition of suitable size complete with falls ceiling duly painted with door size:-(W) 0.914x (H)2.1 along with door closer & Door stopper, duly locked with herision Lock.
- ii. Water ATM shall be housed separately towards front side of the main plant with proper brick partition complete wall paints, lighting and fan.
- g. The toilets and wash room:
 - i. Suitable Indian style urinal, toilet and wash room shall be constructed on one side of the plant room with required soak pits (use the design of Swatch Bhart) complete with piped raw water and proper drainage system.

Structure work:

1. The vertical column shall be min size of ISMC 200 X 75 mm on suitable spacing. As reference min 20 nos columns are envisaged.
2. Base plate size of column shall be min 400 X 300 X 20 mm
3. Top plate size of columns shall be min 400 X 300 X 16 mm
4. Tie beam shall be provided with min size of ISMC 100 X 50 mm
5. For slop of the plant area ISMB 200 X 100 mm as truss shall be provided
6. Purlings of structure shall be min ISMC 100 X 75 mm or Sq. pipe of 100 X 100 X 4 mm
7. Stiffeners and guest plate above base plate for colum shall be min 300 X 250 X12 mm
8. Colour coated sheet with 0.5mm thickness shall be used for plant sides and top.
9. Suitable purlin of min 40 X 40 X 3 mm sq. pipe shall be provided on all sides of the shed.
10. Providing MS door with Choket of min size of 2 X2 mtrs to enable easy movement of material and people.
11. Rectangular tube alongwith colour coated sheet of 0.5 mm thickness covered with side jhallar of size 600 X 400 mm from all three sides.

Security Room near the Gate:

1. All weather security room near the main gate shall be made to accommodate security personal complete with required furniture's and electrical fittings.
2. The Security room is considered as prefabricated room.

List of materials to be provided at the shed and plant room area

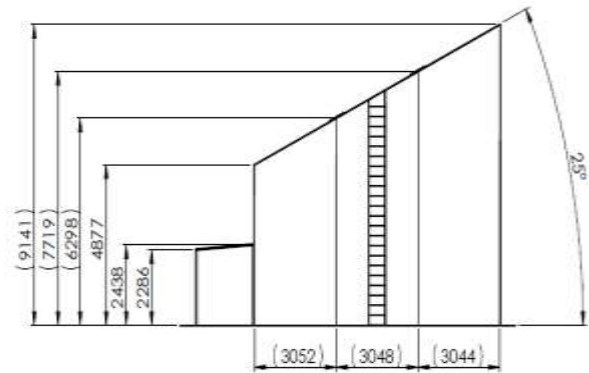
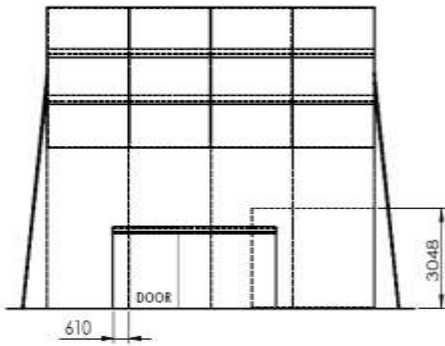
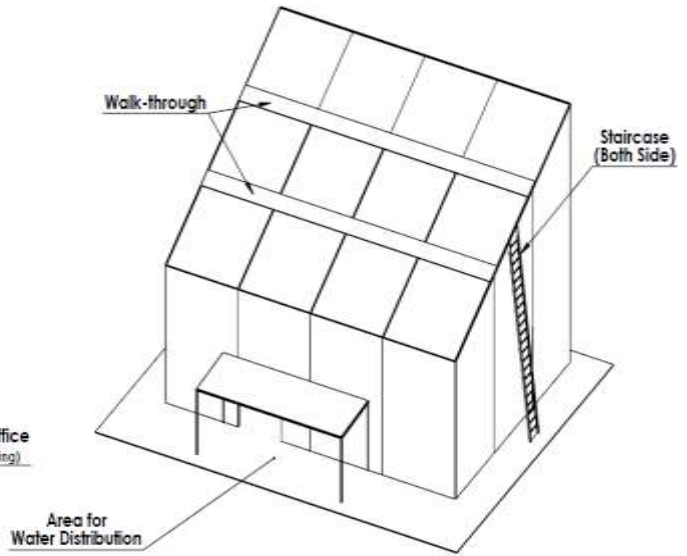
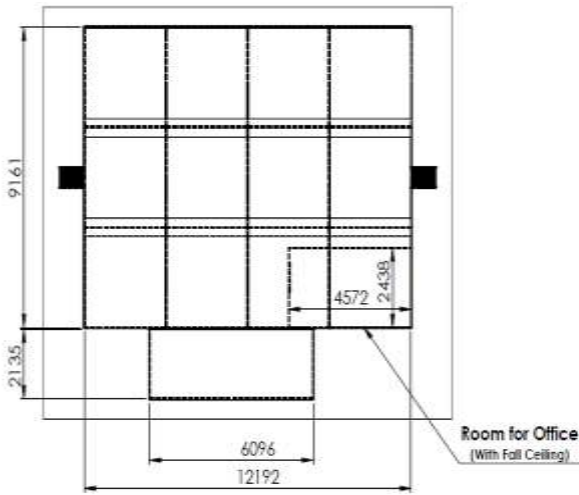
1. Office furniture like steel wardrobe, cupboards for placing documents and essential equipments safely, shall be provided
2. Sufficient lights and fans for proper illumination and air ventilation of the working place.
3. Safety gears like Helmet, Safety Shoes, Goggles, Rubber Gloves and Disposable Masks for operators
4. Dry Powder / refillable carbon dioxide gas extinguisher spray
5. Plate cleaning brush
6. Other required electrical and mechanical tools for regular maintenance of the plant

Laboratory Equipment and Furniture

1. Laboratory equipment and chemicals for testing of water quality parameters like Arsenic, Hardness, Alkalinity, Chloride, TDS, pH etc
 Arsenic test kit make: MERCK
 TDS meter make: HANNA
 pH meter make: HANNA
 Hardness, Alkalinity and Chloride: by test kit or by basic titration method.
2. Computer/Laptop with printer for keeping the test report.
3. One 5'x 3' table for water quality testing
4. One table alongwith four chairs for sitting and discussion
5. Two nos Almirah for keeping the records and storing the Lab equipment
6. Fans, ventilators and lights as required for comfort/ventilation of the plants and personals.

O&M Responsibilities

1. Bidder has to take comprehensive O&M responsibilities of the plant for Ten years
2. The responsibilities include:
 - i) Providing skilled and unskilled manpower to operate the plant for all working days in a year.
 - ii) Production of water as per quality standard of IS 10500 : 2012 and distribute it through ATM.
 - iii) Water quality parameters to be checked for each batch of production – Arsenic, TDS, pH and Hardness as per IS.
 - iv) Complete IS 10500:2012 water analysis report from Govt. recognized / NABL laboratory in every quarter for Raw Water and treated water once in each quarter.
 - v) Operation Process design/deviation to be performed to maintain water quality as per IS drinking water standard
 - vi) Cleaning of reactor plates
 - vii) Sludge collection and disposal as per Govt. norms
 - viii) Proper upkeep of the plant and all required maintenance works in time
 - ix) All the required spares within the O&M period will be in the scope of contractor and will be part of the O&M.
 - x) List of spares to be maintained: Reactor plates, parts of water pumps, extra electronic circuits for water dispensing units, valves of required sizes and water testing equipment
 - xi) Supply of required dosing chemicals like PAC, hypochlorite and MS plates to run the plant uninterruptedly
 - xii) Maintenance of solar PV plant including the spares, upkeep and cleaning of the modules
 - xiii) Solar operated raw water pump operation and maintenance along with spares.
 - xiv) 24 X 7 Security arrangement of the premises for the duration of O&M.



Note :

1. All dimensions are in mm.
2. No of structural members & Distance b/w structural members are for reference only. It can be changed according to requirement.

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 etc. and overall workmanship of the complete systems 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 .
- During operation and maintenance period of the 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.

PART-6
TECHNICAL BID
e-tender NO. UPNEDA/SPV/SPROWS/NEW2018-19/03

Technical Bid (Part-I)					
Description		To be furnished by the Tenderer			
A.	Solar PV Module				
1.	Type of Module				
2.	Make				
3.	Max power at STC Pmax (W)				
4.	Max power voltage Vmp(V)				
5.	Max power current Imp(A)				
6.	No of cells per module				
7.	Fill factor				
B.	PUMP				
1.	Make				
2.	Type				
3.	Rated capacity				
4.	Maximum head				
5.	Operating voltage range				
6.	Rated Current				
7.	Discharge at maximum head				
8.	Others				
C.	Water Purifier				
1.	Make				
2.	Flow rate				
3.	Water tank capacity				

4.	Water purification standard	
5.	Power consumption	
6.	Cartages replacement time	
E.	Module Mounting frame	
1.	Material used	
2.	Whether Protection against corrosion provided	
3.	Angle of inclination to horizontal	
F.	Storage Tank	
1.	Material	
2.	Dimension	
3.	Make	
G.	Connecting cables / wire/pipe line	
1.	Material and size	
2.	Material and class of water pipeline	
H	Battery	
	Type	
	Make	
	Capacity	

(Signature of Bidder)
with seal

PART-7
FINANCIAL BID
e-tender NO. UPNEDA/SPV/SPROWS/NEW2018-19/02
Financial Bid (Part-II)

Name of the Firm: -----

Name of the villages:--

Supply, installation & commissioning and 5 years comprehensive maintenance of Complete Solar PV RO water system in various Primary School of Uttar Pradesh.

Price in Indian Rs.

Item/work	Total cost including 5 years operation and maintenance of the plant.
Design, supply, installation, commissioning and 5 years comprehensive warranty operation maintenance of solar pv powered arsenic removal plant along with RO system, water pump and water ATM system in -----villages of Bahraich district of Uttar Pradesh as per specifications terms and conditions of this tender.	

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 other 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-II. Other documents / conditions, terms if enclosed will liable to be rejection of bid.

Annexure - I

Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA)

JOINT COMMISSIONING AND HANDING OVER CERTIFICATE /WARRANTEE CARD:

(To be submitted in 3 copies)

It is hereby certified that following system has been supplied, installed, commissioned and handed over to the beneficiary as per following details:-

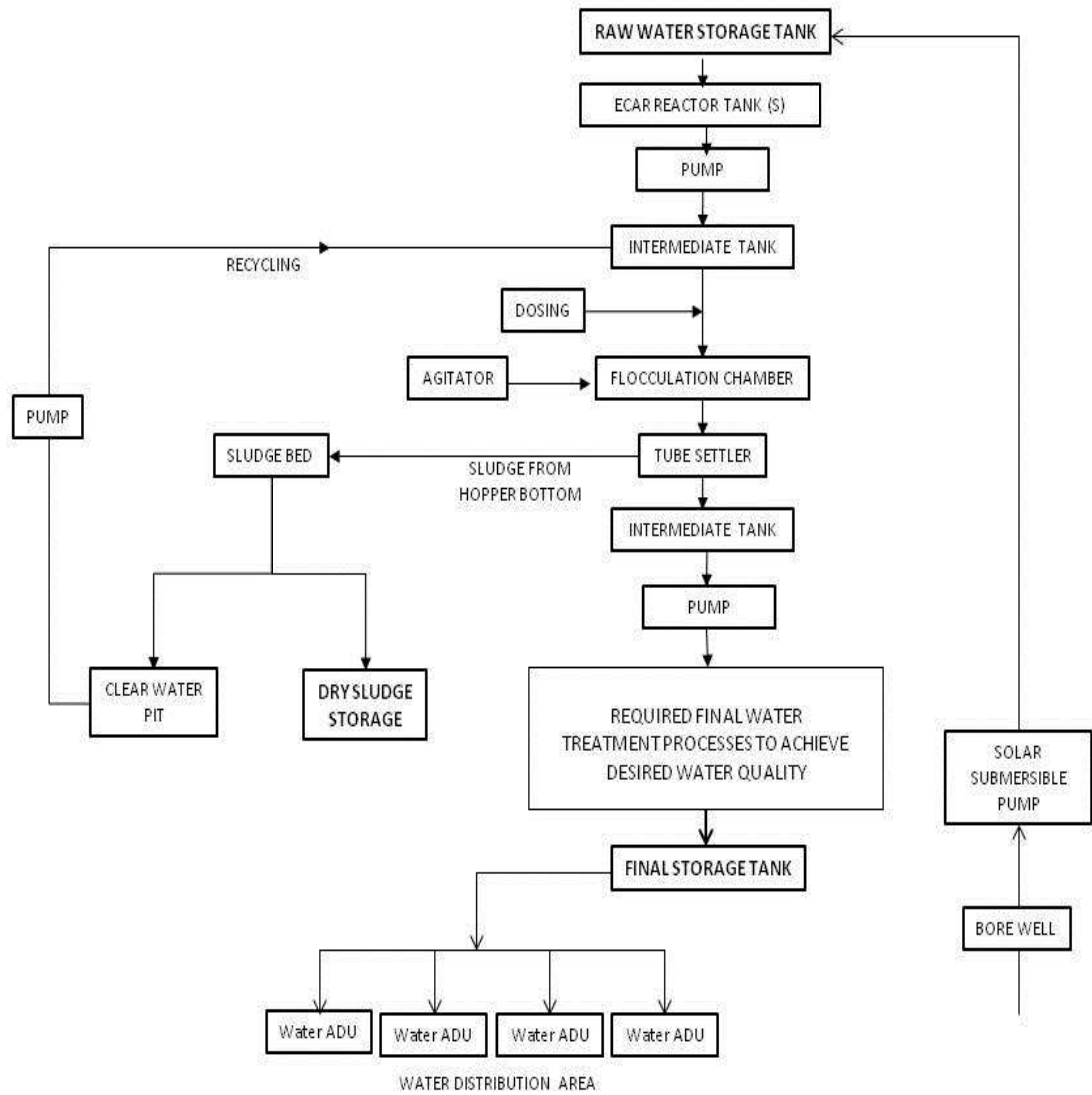
Sr. No.	Items	Details
1	Name of system	
2	Agreement Number and date	
3	Work Order Number Date	
4	UID number (14 digit)	
5	Name of school with Head Master mobile number.	
6	District	
7	Block	
8	Village/Gram Panchayat	
10	Date of installation	
11	Warrantee expire on	
12	Name & Address of the Manufacturer/ Supplier of the system with mobile no for maintenance contact	
13	Plant discription	
	Training for operation & maintenance of the systems	Provided/Not Provided
	Technical literature, operation & maintenance manual in English & Hindi	Provided/Not Provided

(Signature)

Authorized Signatory of

(Signature)

Sr./Project Officer/Incharge –Project



Annexure A

Details of the Respondent

Sl .No.	Parameters	Details
i.	Name of the Company	
iii.	Status of the Company: a) Whether registered under the Companies Act 1956 / the Companies Act 2013 b) If not, Country of Incorporation	
iv.	Net Worth of the Company (as on 31.03.2018 or closure of FY 18)	
v.	Annual Turnover of the Company as on 31.03.2018 or of FY 18)	
vi.	Past Experience as an Independent Power Producer: a) Total cumulative solar project capacity (including Arsenic removal plant projects etc.) (MW) c) Largest Arsenic removal plant capacity d) Smallest Arsenic removal plant Details of the past experience of the Projects to be enclosed as per Format-A2	
vii.	Indicative Cost (Rs in lakhs) a) PV Modules b) Inverters Balance of Plant Equipment Floating Platform Civil & Structure Other Electrical Equipment including RO c) water plant ATM etc	

Annexure-B
Experience Details

S. No.	Project Capacity	Location (District, State, Country)	Arsenic removal Technology	Status of Construction (Commissioned / under construction)	Operational / Commissioned since (year)	Water Sale Arrangement	rate (Rs/ Litr)	Annual Average Supply	Initial arsenic level	Arsenic level after removal

Detailed project description with running cost of project and its sustainability should be enclosed

We hereby declare that above information are true and providing such information details are not in violation of any of the Agreements to the best of my knowledge.

Signature:

Name:

Designation:

(Authorised Signatory)

Model Bank Guarantee Format for Furnishing EMD

Whereas(hereinafter called the “tenderer”) has submitted their offer dated..... for the supply, installation, commissioning with 5 years of comprehensive warranty maintenance of hereinafter called the “tender”) against the purchaser’s tender enquiry No.KNOW ALL MEN by these presents that WE ofhaving our registered office at are bound unto (hereinafter called the “Purchaser) in the sum of Rs..... for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this..... day of20..... THE CONDITIONS OF THIS OBLIGATION ARE:

If the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.

If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity

- (1) Fails to furnish the Performance Security for the due performance of the contract.
- (2) Fails or refuses to accept/execute the contract.

WE undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser

will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including 45 (forty five) days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

.....

(Signature of the authorised officer of the Bank)

.....

Name and designation of the officer

.....

Seal, name and address of the Bank / Branch