

# ODISHA RENEWABLE ENERGY DEVELOPMENT AGENCY

## BHUBANESWAR

### BID DOCUMENT

DETAILS OF TENDER CALL NOTICE No. 3042/OREDA DTD- 22.07.2016

FOR

Design, Manufacture, Supply, Installation (Erection), Testing, Commissioning, including Warranty and Comprehensive Maintenance Contract for a period of 5 years of Solar energy based dual pump pipe water supply schemes in the state of Odisha under RWS&S and other Govt Dept **on Rate Contract.**

Date of release of bid	22.7.16
Date & time of pre-bid meeting	3.8.16, OREDA Conference hall 11-30 AM
Final online bid document hoisting	5.8.16
Date and time of last submission	12.8.16 at 5.00 PM
Opening of Techno-commercial bid (Part-I)	16.8.16 at 11-30 AM
Date of opening of the price bid(part-II)	To be informed to the qualified bidders.

S-3/59, MANCHESWAR INDUSTRIAL ESTATE, BHUBANESWAR-751010

Phone : (0674) 2588260,2586398,2580554. Fax:2586368

Website: [www.oredaorissa.com](http://www.oredaorissa.com),

Email: [ceoreda@oredaorissa.com](mailto:ceoreda@oredaorissa.com)

## CONTENTS

Sl No	Items	Page
1	Disclaimer	3
2	Notice inviting tender	4
3	Instruction to bidder online	5
4	Submission of bid online	6
5	Checklist of documents to be submitted	12
6	Undertakings by bidders	14
7	Letter of Authorisation	15
8	The Scope of work	17
9	Eligibility Criteria	20
10	Instructions to Bidder	21
11	Commercial terms and conditions	25
12	Technical specification	32
13	All format annexure	39-43
14	Scope of CMC	44-47
15	Model Bank Guarantee Format	48
16	<b>Price bid for online only, not in hard</b>	49-51

## **Disclaimer**

Kindly Note:

1. This document is not transferable
2. Though adequate care has been taken for preparation of this document, the bidder shall satisfy himself that the document is complete in all respects. Intimation of any discrepancy shall be given to this office immediately. If no intimation is received from any bidder on the pre bid meeting or within ten days from the date of issue of the bid document, it shall be considered that bid document is complete in all respects and has been received by the bidder.
3. The Odisha Renewable Energy Development Agency (OREDA) reserves the right to modify, amend or supplement this bid document keeping in view the necessity in implementation of the scheme.
4. While the bid document has been prepared in good faith, neither OREDA nor their employees or advisors make any representation, warranty, express or implied or accept any responsibility or liability, whatsoever, in respect of any statements or omissions herein, or the accuracy, completeness or reliability of information, and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability and completeness of this bid document, even if any loss or damage is caused by any act or omission on their part.

**ODISHA RENEWABLE ENERGY DEVELOPMENT AGENCY**

S-3/59, MANCHESWAR INDUSTRIAL ESTATE, BHUBANESWAR-751010

Phone : (0674) 2588260,2586398,2580554. Fax:2586368

Website: [www.oredaorissa.com](http://www.oredaorissa.com), Email: [ceoreda@oredaorissa.com](mailto:ceoreda@oredaorissa.com)

**NOTICE INVITING TENDER**

**E-TENDER NOTICE NO: 3042 /OREDA DTD-22.7.2016**

ODISHA RENEWABLE ENERGY DEVELOPMENT AGENCY invites sealed e-tenders **in two part bidding system** from manufacturer, system integrator, EPC firms for Design, Manufacture, Supply, Installation (Erection), Testing, Commissioning, including Warranty and Comprehensive Maintenance Contract for a period of 5 years of Solar energy based dual pump pipe water supply schemes in the state of Odisha under RWS&S and other Govt Depts on rate contract.

Date of release of bid	22.7.16
Date & time of pre-bid meeting	3.8.16, OREDA Conference hall
Revised & final online bid document hoisting	5.8.16
Date and time of last submission online	12.8.16 at 5.00 PM
Date and time of submission of hard copy of online documents.	16.8.16 at 11-00 AM
Opening of Techno-commercial bid (Part-I)	16.8.16 at 11-30 AM
Date of opening of the price bid (part-II)	To be informed to the qualified bidders.

Interested prospective bidders may visit OREDA's website [www.oredaorissa.com](http://www.oredaorissa.com) and [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) for details relating bidding process and all other terms and conditions. The bidders can view the tender documents from [www.oredaorissa.com](http://www.oredaorissa.com) website free of cost.

Sd/-  
Chief Executive, OREDA

**ODISHA RENEWABLE ENERGY DEVELOPMENT AGENCY**

**S-3/59, MANCHESWAR INDUSTRIAL ESTATE, BHUBANESWAR-751010**

**Phone : (0674) 2588260,2586398,2580554. Fax:2586368**

**Website: [www.oredaorissa.com](http://www.oredaorissa.com), Email: [ceoreda@oredaorissa.com](mailto:ceoreda@oredaorissa.com)**

**DETAIL OF NOTICE INVITING TENDER**

ODISHA RENEWABLE ENERGY DEVELOPMENT AGENCY invites sealed e-tenders **in two part bidding system** from manufacturer, system integrator, EPC firms for Design, Manufacture, Supply, Installation (Erection), Testing, Commissioning, including Warranty and Comprehensive Maintenance Contract for a period of 5 years of Solar energy based dual pump pipe water supply schemes in the state of Odisha under RWS&S and other Govt Depts on rate contract.

Particulars	Estimated Cost (Rs. in .Lakhs)	Earnest Money Deposit (Rs. in Lakhs)	Tender processing fee Non refundable (in Rs.)	Non refundable Cost of Bid document	Last date/time for submission of bids	Date and time of opening of bid
Supply, installation, commissioning including warranty and Comprehensive Maintenance Contract for a period of 5 year of solar energy based dual pump pipe water supply systems complete in all respect as per the technical specification, schedule of materials and terms and condition of the of the work award from time to time on the basis of the lowest price arrived at within a period of minimum one year of the valid tender under the scope of work	2000 project likely to enhance 90,00,00,000	30,00,000	2300	Rs. 10500/-	Online 12.8.16, 5-00 PM Hard copy 16.8.16, 11-00 AM	16.8.16,11-30 AM

Interested prospective bidders may visit OREDA's website [www.oredaorissa.com](http://www.oredaorissa.com) and [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) for details relating bidding process and all other terms and conditions. **The bidders can view the tender documents from [www.oredaorissa.com](http://www.oredaorissa.com) website free of cost. The authority reserves the right to accept / reject any part thereof or all the bids without assigning any reason.**

Sd/-

Chief Executive, OREDA

## 1. Instruction to bidders for online submission

**The prospective bidders who do not have the supporting documents of proofs of all the eligibility (qualification) conditions must not submit the bid document.**

(i) The bidders who want to submit bid shall have to pay the **tender cost** for the package (As mentioned in TENDER SCHEDULE, non-refundable which is inclusive VAT @ 5%), in the form of **Demand draft** only, drawn in **favour of Chief Executive, OREDA payable at Bhubaneswar**.

(ii) The bidders shall have to submit the non-refundable tender processing fee (As mentioned in TENDER SCHEDULE, *which is inclusive of service tax@15%*) in the form of e-payment mode

**( NOTE: For tender processing fee to K.S.E.D.C. Ltd. Bangalore, the bidder can use various modes of e-payment facility available through Tender wizard Portal, i.e. by Credit Card, Debit Card, Net Banking).**

(iii) The bidders shall have to scan the Demand Draft / Bank guarantee towards **EMD , Tender Cost , signed copy of tender document (all pages)** as a token of acceptance and **other additional documents** against the tender and upload the same in the prescribed form in .pdf or .jpg format in addition to sending the original as stated below.

(iv) The prospective bidders are advised to register their user ID, Password, company ID from website [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) by clicking on hyper link "**Register Me**".

(v) Any clarifications regarding the scope of work and technical features of the project can be had from the undersigned during office hours

NB: All subsequent addendum/Corrigendum to the tender shall be hoisted in OREDA's official web site [www.oredaorissa.com](http://www.oredaorissa.com) and [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) only

**NB:-**All subsequent addendum/Corrigendum to the tender shall be hoisted in OREDA's official web site [www.oredaorissa.com](http://www.oredaorissa.com) and [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) only.

For and on behalf of OREDA

## **2. SUBMISSION OF BIDS ONLINE**

### **MODE OF SUBMISSION OF BID:-**

- (A)** (i) The bidder shall submit the bid in Electronic Mode only i.e. in [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) portal. The bidder must ensure that the bids are received in the specified website of the OREDA by the date and time indicated in the Tender notice.
- (ii) Bids submitted by telex/telegram will not be accepted.
- (iii) The OREDA reserves the right to reject any bid, which is not submitted in electronic mode and according to the instruction, stipulated above.

### **(A-1) PARTICIPATION IN e-TENDER:-**

#### **ACQUISITION OF DIGITAL SIGNATURE CERTIFICATE**

- (i) For all the users it is mandatory to procure the Digital Signatures of **Class III only**.
- (ii) Contractors / Vendors / Bidders / Suppliers are requested to follow the below steps for registration.

### **(A-2) REGISTRATION IN TENDER WIZARD PORTAL**

- (i) Log in [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) Click "Register", fill the online registration Form.
- (ii) Payment for an amount of Rs. 2300/- shall be made to KSEDCL, Bangalore for vendor registration in tender wizard portal in **e-payment** mode only.
- (iii) As soon as the verification is being done the e-tender user id will be enabled/provided.

### **(A-3) ON LINE REQUEST FOR e-tender DOCUMENTS.**

After viewing Tender Notification in [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) if bidder intends to participate in tender, he has to use his e-tendering User Id and Password which has been received after registration and acquisition of DSCs (Digital signature certificate). If any Bidder wants to participate in the tender he has to follow the instructions given below.

- (i) Insert the PKI (which consist of your Digital Signature Certificate) in your System. (Note: Make sure that necessary software of PKI be installed in your system).

(ii) Click / Double Click to open the Microsoft Internet Explorer (This icon will be located on the Desktop of the computer).

(iii) Go to Start > Programs > Internet Explorer. Type [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) in the address bar, to access the Login Screen.

(iv) Enter e-tender User Id and Password, click on "Go". Click on "Click here to login" for selecting the Digital Signature Certificate. Select the Certificate and enter DSC Password. Re-enter the e- Procurement User Id Password

(v) Click "Un Applied" to view / apply for new tenders.

(vi) Click on Request icon for online request. After making the request, bidder has to pay the requisite tender processing fee (as indicated in tender notice) through **e-payment** facility only available in the portal. Bidders will receive the Tender Documents which can be checked and downloaded by following the below steps.

(vi) Click to view the tender documents which are received by the user. Tender document screen appears.

(vii) Click "Click here to download" to download the documents.

**NOTE: For vendor registration and payment of tender processing fee to KESDCL, the bidder can use various modes of e-payment facility available through Tender wizard Portal, i.e. by Credit Card, Debit Card, Net Banking.**

## **(B) ONLINE SUBMISSION OF BID**

The bidders shall have to scan the Demand Draft / Bank guarantee towards **EMD**, **Tender Cost**, **signed copy of tender document (all pages)** as a token of acceptance and **other additional documents** against the tender and **upload** the same in the prescribed form in .pdf or .jpg format in addition to sending the original **except bid sheets (.xls)** prior to last date and time of receipt of bids as specified in tender Notice. Tender processing fees is mandatory & to be paid on **e-payment** mode as stated elsewhere in the document.

### **(B-1) PROPER FILLING UP OF THE PRICE SCHEDULE:**

The bidder should fill up the Techno commercial and price schedule properly and fill in the bid sheets provided in .xls format and up-load the same without changing the file name. The tender may be rejected if the schedule of price is submitted in incomplete form.

**NB: The bid sheets (.xls file) shall be uploaded in [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) portal, prior to online closing of the tender. By no other means (except online) price bid shall be accepted for evaluation of tender.**



(i) After completing all the formalities Bidders will have to submit the tender as specified NIT and they must take care of all instructions. Prior to submission, verify whether all the required documents have been attached and uploaded to the particular tender or not.

**Note down / take a print of bid control number once it displayed on the screen**

(ii) Tender Opening event can be viewed online.

(iii) Competitors bid sheets are available in the website for all participated bidders.

**NOTES:**

**For any e-tendering assistant contact help desk number,**

**080- 40482000(Bangalore). OREDA HELP DESK- 09937140591**

**(C) DEAD LINE FOR SUBMISSION OF BIDS**

Soft copy of the bid shall be uploaded through the portal [www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) on or **before the online submission time and date as stipulated in the bidding document. DD towards Tender cost, DD/BG towards Bid Security , tender processing fee acknowledgement & a set of all uploaded documents must be received by OREDA at the address specified not later than the time and date stated in the tender notification.**

In the event of the specified date for the submission of bids being declared a holiday for OREDA, the bids will be received on the next working day as per the time indicated in tender notification.

**(ii)** OREDA may, at its discretion, extend this deadline for submission of bids by amending the Bidding Documents in accordance with ITB for the reasons specified therein at any time prior to opening of, in which case all rights and obligations of Employer and bidders will thereafter be subject to the deadline as extended.

**(D) LATE BIDS**

(i) Soft part of the bid cannot be uploaded on the portal after expiry of submission time and the bidder shall not be permitted to submit the same by any other mode. In such case, even if the bidder has submitted the specific documents in hard copy in

original (viz., bid security, tender cost & any other document) within the stipulated deadline, its bid shall be considered as late bid. The hard copy submitted [specific documents (viz., bid security, tender cost.)] shall be returned unopened to the bidder.

**(E) MODIFICATION AND WITHDRAWAL OF BIDS:-**

(i) Bidder may modify or withdraw its bids through the relevant provisions on the portal

**[www.tenderwizard.com/OREDA](http://www.tenderwizard.com/OREDA) up to due date and time of submission of bid indicated in tender notification.**

(ii) The Bidder's modifications shall be done and submitted as follows:

Modified Electronic form of the bid as per the provision of portal therein.

(iii) Bidder may withdraw its bid through the relevant provisions of portal only.

**(iv) No bid shall be modified/ withdrawn subsequent to the dead line for submission of bids. Withdrawal/modification of bid before the expiry of bid validity shall result forfeiture of Bidder's bid security.**

**2. SEALING AND MARKING OF BID:-**

**(A) Hard copy of the followings should be submitted with OREDA:**

(i) Demand draft towards cost of bid document.

(ii) Tender processing fee acknowledgement copy.

(iii) Bid Security in shape of DD/BG as described.

Technical Bid document in **hard bound form** with each page legibly numbered comprising of the following

**All the papers of bid documents **except the price bid** duly signed & should be uploaded in **e-tender** portal. Hard copy (i.e EMD, Tender cost & signed e-tender document) shall be submitted OREDA office at S-57, Mancheswar Industrial Estate, Bhubaneswar 751010 before tender closing date and time.**

***\*Contactors/Vendors are advised to upload their tender documents well in advance to avoid last minutes disappointed***

## **Background**

### **Solar energy based dual pump piped water supply scheme:**

IAP (Integrated Action Plan), PVTG areas and other remote are typically characterized by small remote habitations. Bore well / tube wells are the only sources of drinking water in small / inaccessible / habitations. When water level in the wells depletes or hand pumps go out of order providing minimum life supporting drinking water in these villages comes as a very big challenge. Since most of these habitations are either un-electrified or the power supply is highly erratic energising the wells with normal grid power is also very difficult. In non-IAP areas also frequent natural calamity disrupts the normal water supply due to grid failure. In such scenario Solar PV water pumping systems in tandem with regular existing hand pumps (called as dual pump) emerge as viable option for ensuring uninterrupted drinking water supply with minimum recurring expenses.

About 2000 or more villages/habitations will be covered under the program in 18 districts. RWS&S and other deptts will provide the list of villages, locations of the bore wells within the villages and water yielding report of each selected bore well. RWS&S and OREDA through a joint survey of each village will finalise the location point of the over head tank (OHT) on the optimal height and distance within minimum 15 mtr periphery, solar module mounting structure and **two stand posts (two ends of habitation) closest to the habitation within the purview of the execution. Pipe line for more stand posts and longer distance shall be accommodated within the overall pipe laying in each supply / installation order in total job beyond which the cost as per actual is to be borne by the respective RWS&S Division.**

In view of the large geographical spread and limited time available for completion of the project it is contemplated to allocate the supply / installation to multiple qualified

bidders subject to their acceptance of the L1 price discovered through the tender subject to condition that qualified L1 bidder shall have the claim of minimum 30% of the allocation on successful phase wise firm work order.

### **Check list of documents to be submitted along with the bid**

<b>Sl no</b>	<b>Particulars</b>	<b>Complied</b>	<b>Page-no / Flag</b>
1	Bank draft for Rs.10,500/- or original money receipt issued by OREDA as proof of purchase of tender paper or exempt as admissible with proof <b>for Local MSME only</b>	Bank No Dt	Envelope
2	Bank draft for Rs.30,00,000/- towards Earnest Money deposit or exempt as admissible with proof.	Bank No Dt	Envelope
3	Undertaking duly signed and stamped by the bidder. Undertaking to unconditionally accept all terms and conditions of the bid document with copy of Board Resolution		
4	Valid document registering the status of the bidder as manufacturer /systems integrator / EPC		
5	Organizational profile containing the original documents defining the constitution or legal status, place of registration.		
6	Copy of the PAN card of the bidder's firm		
7	Copy of the TIN card of the bidder's firm		
8	Copies of Tax returns, VAT/ e-filing		
9	Document stating annual turnover of 15 crore for last three years in solar business duly signed and stamped by a registered chartered accountant on the letter head of the chartered accountant		

10	Proof of installation of 500 pumps(AC / DC / surface / submersible) in the entire country in Govt / PSU / Govt Agencies / Co-op Society. Copies of certificates given by the concerned government agencies to be enclosed		
11	A self certificate on not debarred / black listed / default		
12	Valid Test reports of Solar PV BLDC water pumping systems of 900 Wp capacity in the name of the bidder from valid MNRE accredited test lab		
13	Undertaking for Indigenoussness (domestic content) of the supplied items		
14	Filled in bid document duly signed and stamped at the bottom of each page except the price bid format.		

## **UNDERTAKING BY THE BIDDER**

I/we here by undertake that

1. We have thoroughly read and examined the notice inviting tender and the tender document along with all its schedules, annexure etc.
2. The rates quoted by us are firm and final and are meant for execution of the allotted supply / installation within the time frame stipulated in the tender/supply / installation order.
3. All terms and conditions of the tender including the rates quoted by us shall remain valid for a period of min one year from the date of opening of the technical bids.
4. In case our tender is incomplete in any respect or we violate any of the prescriptions given in the tender for submission of the same OREDA shall , without prejudice to any other right or remedy , be at liberty to forfeit the earnest money deposited by us.
5. In case of award of supply / installation in our favour OREDA shall have the right to convert the EMD deposited by us in to full or part (as the case may be) of the security deposit to be deposited by us against award of the supply / installation.
6. In case we fail to commence or complete the supply / installation as per the time schedules or fail to fulfill any of the terms and conditions given in the tender OREDA shall , without prejudice to any other right or remedy , be at liberty to forfeit the security deposit made by us against the award of the supply / installation.
7. I/We hereby declare that I/We shall treat the tender documents, specifications and other records connected with the supply / installation as secret/confidential and shall not communicate information derived there-from to any person other than a person to whom I/We have authorized to communicate the same or use the information in any manner prejudiced to the safety of OREDA/the State Govt.
8. I/We shall abide by all the laws prevailing at the time of the execution of the supply / installation and shall be responsible for making payments of all the taxes, duties, levies and other Govt. dues etc. to the appropriate Govt. departments.
9. The entire tender document has been discussed in the Board meeting and a resolution has been concurred for participation in the tender (copy enclosed)

10. We are not blacklisted / debarred / defaulted in any manner by any Central / State Government / Public Sector Undertaking in India.

11. In case any false documents submitted and found any time in future the firms shall be liable to be proceeded against as per prevailing laws.

12. Our state commercial tax / TIN registration no. is \_\_\_\_\_ and  
CST registration No.

\_\_\_\_\_  
The PAN No. under the Income Tax Act is \_\_\_\_\_ and  
Service Tax Registration No. is \_\_\_\_\_

10. I/We shall be responsible for the payment of the respective taxes to the appropriate authorities and should I/we fail to do so, I/we hereby authorize OREDA to recover the taxes due from us and deposit the same with the appropriate authorities on their demand.

**Signature of bidder with stamp & date**

**Letter of Authorization**

**(to be submitted in the letter head of the bidder)**

To,  
Chief Executive  
Odisha Renewable Energy Development Agency  
S-59, MIE, Bhubaneswar-751010  
Odisha

Sub: Submission of tender for the supply / installation of Design, Manufacturing, Testing, Supply, Installation, Commissioning & Maintenance of **Solar energy based dual pump piped water supply Scheme.**

Ref: Tender Call **Notice No. -----/ OREDA, dtd -----.**

Sir,

I/we hereby authorise Ms. /Mr. \_\_\_\_\_, Designation .....of our company to sign all relevant documents on behalf of the company/firm in dealing with the above tender. She / He is also authorized to attend all meetings and submit technical and commercial information as may be required by OREDA in the course of processing of the tender.

We further authorise Ms. /Mr. \_\_\_\_\_ designation..... of our company to make technical presentation on behalf of the company.

Signature of the authorise persons

1. \_\_\_\_\_
2. ....

Signature attested

Name and designation of the attesting officer with stamp.

**Yours faithfully**  
**Head of the organization**



## 1. Scope of Works.

The broad scope of the supply / installation includes design, manufacture, supply, installation, testing commissioning, warranty, operation & Maintenance for 5 years for a complete/ composite supply / installation of Solar energy based dual pump piped water supply scheme comprising providing, installing, testing and commissioning of Solar Photovoltaic pumps sets along with storage tank, piping, stand post adhering to the standardized norm / BIS /MNRE specification (as per the valid test report issued to the bidder of the authorized test centre ) in the entire state in the current year 2015-16 /2016-17..

**All tax deductions at source applicable for turnkey / EPC / contract will be made irrespective of VAT / CST clearance documents subject to bifurcation of the price components.**

- a) Collection of the list of village including, locations of the bore wells, water discharge testing reports, shadow free area etc. from OREDA.
- b) Visit to the village and identifying the designated bore well and selection of site for construction of over head tank at a higher location and minimum two public stand posts as per the requirement and intimating the concern EE RWSS/ VWSC about the date and time of commencement of supply / installation.
- c) Deciding the location and number of the stand post required in habitations after discussing with the VWSC / junior engineer of RWSS.
- d) Transportation of all materials to the village and keeping the same in safe own custody within village. OREADA shall not be the consignee to receive the materials supplied/ delivered.
- e) Installation of the solar PV water Pump, storage water tank, solar PV array and required numbers of stand post etc. as per the technical specifications and standards provided in the tender and testing the same in the presence of the VWSC/ Junior Engineer of RWSS. In case of sanitary well the float arrangement to provide.
- f) Intimate OREDA, RE Cell Officials and EE, RWSS, Divisions.

- g) Installation of the water dispensing stand post including construction of its platform etc. in a manner which is convenient for collection of water. The system shall be away from the water outlet portion. Outlet pipes for tube well shall not be exposed over the platform.
- h) After initial operation and testing of the pump for about a week handing over the same to the Village Committee/Junior Engineer of RWSS to be maintained by the firm for 5 years under CMC.
- i) Collection of all documents, including photographs of the installed systems and preparing the joint commissioning reports.
- j) Submission of all documents as detailed in the tender document including the joint Commissioning report to OREDA
- k) Periodic maintenance of the system as detailed in this tender.
- l) Opening of service centre/keeping servicing personnel and making available all essential spares in the vicinity of the solar water pumping system will give the desired performance with least interruption.
- m) Submission of periodic reports and returns as per the MIS prescribed by OREDA from time to time.
- n) Supply of the complete systems, including all necessary components, sub-components, spares, tools, tackles etc. as per technical specifications given in this document including packing, forwarding, safe storage, handling, commissioning, trial and performance testing and handing over, insurance.
- o) The solar panel shall be warranted for ten years with rated performance. Security cum PGF for the corresponding amount for the period warranty is to be retained by this office.
- p) Solar submersible pumps of 900 Wp capacity depending upon the yield of bore well will be utilized for the purpose of water supply in the village as per the requirement of the village.

- r) Comprehensive Maintenance for 5 years and Performance guarantees for the rated delivery / discharge of water as per standard test condition.
- s) All civil structures and site clearances for setting up of the complete job are to be obtained before installation.
- t) All structural drawings to be got approved from OREADA/ any other competent authority, if necessary at any time.
- u) While implementing Solar energy based dual pump piped water supply scheme in the village the physical condition of the area on shades / water logging during rain should be taken into consideration.
- v) There should not be any damage what so ever in the village due to setting up of the solar dual hand pump and later there is no leakage of any water connection of the said project the in the village.
- w) While cabling the array care must be taken such that no loose / open cables lie anywhere related to the supply / installations.
- x) Adequate training has to be provided to the persons to be designated by OREADA/ pump users in maintenance and upkeep of the installed system. The installed and commissioned systems are to be handed over to the Village Committee / respective Jr. Engineer. The bidder must also provide a detailed operation and maintenance manual specific to the installed systems.
- y) Before execution of the supply / installation the yield test of the selected tube well shall be carried out by the agency to ensure the sustainability of the system.
- z) Care should be taken to install the OHT at the highest point nearer to the habitation while the stand posts shall be installed as close to the households as possible. In case length of pipe exceeds the assigned length in the tender payment for the extra work shall be made as per current Schedule of Rate by the department.

## 2. Eligibility Criteria

In order to be eligible to participate in the tender, the bidder must fulfill the following eligibility criteria. Any discrepancy or deviation from the same shall make the bidder ineligible for participating in the tender and such tender documents shall be rejected.

- a) The bidder must be a company registered under the Indian Companies Act 1956 or a firm registered under VAT / CST.
- b) And the bidder must be a manufacturer of any component of solar pumps or a system integrator or EPC of the same. A copy of the registration certificate (DIC, NSIC, MSME, Register of Companies) to that effect is to be attached.
- c) **And the Bidder must have Test Certificate issued in the name of the bidder only for the tendered Model of Solar PV Water Pumping System (900 wp with BLDC submersible pump) from a MNRE authorized valid testing center.**
- d) And the bidder's company/ firm must have designed, manufactured, tested and commissioned minimum 500 nos of solar PV pumps (ac/dc/surface/submersible) in any of government departments/ PSU/ Public Institutions in the country during last 3 years (Copy of the **certificates only and no other documents** from the authorized / designated public officer should be furnished).
- e) And the bidder company must have annual transaction of Rs.15 crore in last three years (2013-14 to 2015-16). **A Chartered Accountant certificate to that effect is to be attached.**
- f) The firm must not have been debarred / blacklisted / defaulted by any Govt. Dept, agency, PSUs / institution / agencies / autonomous organisations. A self-certificate by an authorized person of the bidder's company/firm is to be attached.

### 3. INSTRUCTIONS TO BIDDERS

**Intending bidders are requested to carefully study the instructions contained hereunder before preparing their bid documents for submission.**

1. A Bidder shall submit a single offer-bid only. The bidders shall be responsible for properly uploading the relevant documents in the e-tender portal in the specified location and Tender Inviting Authority shall not be held liable for errors or omissions done while uploading the online bid.
2. Bidders must submit their bids for all items as stated in this bid document above.
3. Demand Drafts towards cost of document and EMD should be submitted in a separate envelop placed inside the envelope containing the technical bid.
4. Bids must be submitted in English language only.
5. Incomplete, telegraphic or conditional bids shall not be accepted.
6. Prices quoted must be firm and fixed. No price variation / escalation shall be allowed during process of completion of the project or for a period of one financial year whichever is earlier.
7. The bidders must sign at the bottom of each page of the bid documents at the time of submission in token of unconditional acceptance of the departmental terms and conditions, technical specifications etc.
8. Valid TIN / VAT / CST / e-filing submission document duly attested must be submitted along with the bid. **All rules and circulars of Finance Department, Govt of Odisha issued from time to time will be applicable during project period from issue of tender to the completion of 5 years CMC period.**
9. Deviations in terms and conditions, Specification of material, Inspection clause etc. will not be accepted under any condition.
10. The bidder shall submit copies of documents defining the constitution or legal status, place of registration and principle place of business of company or firm.
11. The bidder shall furnish a brief write up backed with adequate data, explaining capacity and experience (both technical and commercial) for the

manufacture and supply of the required systems, equipments within the specified time of completion after meeting all their commitments.

12. Earnest money as specified in bid may be deposited in cash at OREDA cash counter or in shape of Demand Draft drawn in favour of Chief Executive, OREDA payable at Bhubaneswar from any nationalized bank. Bids without E.M.D will not be accepted unless exempt.
13. Bids received late due to postal delay or otherwise **will not be considered**.
14. The bidders are required to furnish their offers in the price bid both in words & figures neatly computer typed. Any correction shall liable the document to be rejected. In case of any conflict between figures and words, the latter shall prevail.
15. Since timely execution of supply / installations is of paramount importance, requests for extension of time shall not be ordinarily entertained.
16. Canvassing in any manner shall not be entertained and will be viewed seriously leading to rejection of the bid.
17. Certificate to the effect that the systems to be supplied are indigenous & not fully imported must be furnished.
18. Power of attorney to sign the agreement on behalf of bidders & partnership deed articles, if any, should be enclosed along with original bid documents.
19. Notice inviting Tender, bid documents, prescribed Technical bid, price bid, terms & conditions will form the part of the tender.
20. All pages of the bid documents must be signed & sealed by the authorized person on behalf of the bidders.
21. Bids will be accepted & will be opened as per information mentioned in the notice-inviting tender. No receipt against submission of bid shall be issued by OREDA.
22. **A pre bid meeting will be convened on 5.8.16. in the conference hall of OREDA. After discussion, deliberation and written statement / suggestions of the representative, the final tender document revised and approved by the technical committee will be uploaded on the website replacing the previous one.**
23. Any clarification on the technical specification and commercial terms and conditions may be clarified in writing from OREDA.
24. Deviation of any commercial terms and condition and technical specification shall not be entertained under any circumstances

25. Bidders may in their own interest visit the sites in order to develop a clear understanding of the logistics and other features of the sites before submitting bids and under taking may be attached in the tender document. OREDA will not be responsible for any incidental or consequential losses of the firms while execution and till expiry of the period of maintenance.
26. All the bidders shall essentially indicate the break-up of prices as shown in Price bid.
27. If qualified, the bidder must open a local office at Bhubaneswar before commencement of the supply / installation for coordination of all jobs and service centres fully equipped with technical person and spare parts at cluster level in the district where solar pumps installed. Such facility must have proper mailing address with contact person detail from time to time for all documents. **All supply / installation orders shall be placed with the state local registered office of the qualified empanelled bidders having valid Odisha TIN/ OVAT as per the FD circular no 5439 dtd 25.2.14.**
28. On award of contract the qualified bidder shall be termed as executing agency.

### **29. Opening of the bids:**

The procedure of opening of the bid shall be as under

- i) The technical bid opening is ONLINE. The date of opening of the technical bid is only published in advanced. The date of opening of the price bid will be decided after verification of those bidders who qualify in the technical bid evaluation and will be informed in advance.
- ii) The online opening of the technical bid and the price bid shall be done by the Chief Executive / or his authorised representative as per bid schedule. The prospective bidders can access to the online opening by logging in to the e-tender portal with the registered digital signature. Bidders / its authorised representative may not come to this office of OREDA for the opening of the technical or price bids.
- iii) In the event of the specified date for opening of the bids being declared holiday, the bid shall be opened at the appointed time and venue on the next working day.
- iv) In the event of the bid and claims in the online documents are materially missing or of substantial error or want of required qualifications, shall stand disqualified and rejected.

### 30. Evaluation of Bids

- i) The documents submitted as technical bids shall be scrutinized by a bid evaluation committee duly appointed.
- ii) The bid evaluation committee may also verify the veracity of claims in respect of the known performances of the items offered, the experience and reputation of bidder in the field, the financial solvency. The Tender Inviting Authority, if required reserves the right to inspect the facility of the bidder for verification of information furnished in the bid.
- iii) The decisions of the bid evaluation committee on whether the bidders are responsive or non responsive.
- iv) The verification of the items shall be conducted by the Technical Committee in which the external experts from the user institutions / funding agency.
- v) The decision of the technical committee will be published

### 31. Price bid opening

- i) The opening of the price bid shall be done online by the Tender Inviting Authority or the authorized representative and only the price bids of the those firms qualified in the evaluation of the technical bids shall be opened.
- ii) After giving price preference to eligible local micro and small enterprises (MSEs) of Odisha as mentioned below

Local micro and small enterprises Khadi and Village Industrial Units will be entitled for a price preference of 10% vis-s-vis Local medium and large industries and industries outside the state. Any local MSEs having valid ISO / ISI certification for their products will get additional price preference of 3%.

### 33. Acceptance/ Rejection of the bid documents:

Chief Executive, OREDA reserves the right to reject or accept any bid or annul the bidding process at any time prior to award of contract, without having prejudice of incurring any liability to the affected bidders or any obligation to inform the bidders.

Sd/-

**Chief Executive**

I/we have carefully read & understood the above terms & conditions of the bid & agree to abide by them.

Signature and Seal of bidder



## 4. COMMERCIAL TERMS & CONDITIONS

The Chief Executive, OREDA shall award the contract to the successful bidders whose bids shall be qualified after evaluation in terms of the responsiveness and lowest standardised rate determined on the basis of price bids. On receipt of the awarded work the same should be submitted duly signed by the authorised person on each page within 7 days duly endorsed by the respective EE, RWSS Division and OREDA RE Cell Officials as acceptance of the terms and conditions. In case of non submission of the same duly complied the said award shall stand cancelled.

### 4.1 **Rate:**

The offer should indicate the unit cost of the system, Installation & Commissioning charges, CMC Charges and taxes & duties separately (Annexure I, J). The unit cost must be inclusive of packing, forwarding, loading & unloading charges, cost of insurance and transportation FOR destination in the entire state where the system will be installed as per the supply / installation order.

### 4.2 **Tax & Duties etc.:**

i) As works contract, the contractor will submit the execution certificate under clause a) of sub-section (5) of section 54 of Odisha Value Added Tax Act-2004 from the competent authority before payment before prepare the bill otherwise 4% towards WCT / OVAT (TDS) will be deducted from each bill and certificate for such deduction will be issued. This will be subject to bifurcation of supply of materials, installation & commissioning and CMC. All statutory deductions applicable for the period of the project shall be effected. **Form C or D shall not be issued by the Tender Inviting Authority.**

### 4.3. **Earnest Money Deposit:**

4.3.1 Earnest money deposit Rs.30.00 lakh as specified in the Table above is required to be deposited along with the bid without which the bid will not be accepted. No interest will be payable for the EMD amount under any circumstances.

4.3.2 Earnest money shall be submitted in shape of a Demand Draft in favour of Chief Executive, OREDA from any Nationalised Bank Payable at Bhubaneswar and the proof of deposits should be attached to the bid. E.M.D would be refunded to the unsuccessful Bidders after finalization of the bid without any interest.

4.3.3 E. M. D would be forfeited in case of non- compliance of the purchase order by the successful bidders. **EMD submitted shall be returned to successful**

**bidders only after Security cum Performance Bank Guarantee of at least 5 years is deposited.**

4.3.4 In case of claim for exemption from deposit of Earnest money sufficient proof in support of claim for exemption of EMD as prescribed in Govt. of India Notification **for local NSIC/DIC / MSME registered firms only** is to be attached with the bid.

#### **4.4 Security Deposit/ Performance Guarantee Fees:**

The successful bidders must deposit **Two numbers of bank guarantees** (Annexure-H) towards Security cum Performance Guarantee fees with the Chief Executive, OREDA, Bhubaneswar along with bills, challans and all other documents as per payment clause before processing of payment as follows

- i) 9 % of the ordered value in shape of irrevocable Bank Guarantees with **5 years validity** from the date of supply, installation and commissioning till the completion of respective warranty and CMC period of the composite system.
- ii) 1 % of the ordered value in shape of irrevocable Bank Guarantees with **10 years validity** from the date of supply, installation and commissioning till the completion of respective warranty period of the module.

The said deposit would be forfeited, if the supplies are not made and performances are not as per the Terms & Conditions of the purchase order. The first security deposit amount will be refunded after the expiry of the Warranty period and CMC period of the systems i.e 5 years after commissioning of each system, subject to satisfactory execution / performance of the systems. The 2<sup>nd</sup> PBG will be refunded after the expiry of 10 years i.e module performance guarantee after successful performances.

#### **4.5 Programme Execution Schedule:**

The programme of execution of the supply, installation and commissioning shall be carried out as per the schedule given in the supply / installation order subject to issue of water yield test / layout documents by the respective Nodal Officer of RWSS in phased manner. In case all yield test report are available at the time of issue of supply / installation order the entire job has to be completed within maximum 3 months of sites clearance reports from RWS&S / OREDA

Execution of supply / installation shall be carried out in an approved manner as outlined in the technical specification or where not outlined, in accordance with the relevant Indian Standard Specification, to the reasonable satisfaction of the Authorized OREDA Officer.

4.5.1 Upon intimation about commissioning of the systems by the executing firm a joint inspection will be carried out by the representatives of the executing firm, OREDA and other officers from Govt of Odisha / Govt. of India.

4.5.2 The issuance of a JCC shall, in no way relieve the executing firm of its responsibility for satisfactory operation of the solar submersible pump systems.

**4.6 Validity of offer:**

The price bid offer (Annexure I,J,) must be kept valid for a period of one year from the date of opening of the technical bid. No escalation clause except the admissible tax component under the period of consideration up to completion of CMC period would be accepted.

**4.7 Tax return:**

The bidders must submit attested copy of valid up to date CST / VAT clearance / e-filing submission certificate along with the bid. The bid would not be considered without this document.

The original certificate would be produced at the time of opening of the bid, or, before issue of purchase order, if required.

**4.8 Warranty:**

The Supplier warrants that the Goods(as per the test report issued by authorized test centre) supplied under this Contract are new, unused, of the most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that the Goods supplied under this Contract shall have no defect arising from design, materials or workmanship (except when the design and/or is required by the Purchaser's Specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in conditions prevailing in the country of final destination.

This warranty shall remain valid for 60(sixty) months after the Goods or any portion thereof as the case may be, have been delivered to and commissioned and accepted at the final destination indicated in the Contract.

The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall repair or replace the defective Goods or parts thereof, without cost to the Purchaser other than, where applicable, the cost of inland delivery of the repaired or replaced Goods or parts from the port of entry to the final destination.

If the Supplier, having been notified, fails to remedy the defect(s), the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's

risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

#### **4.9 Penalty and termination of contract:**

The systems shall be supplied, installed and commissioned within the scheduled time as mentioned in the supply / installation order. If the supplier fails to adhere to the schedule, OREDA shall without prejudice to its other remedies under the contract deduct from the contract price as liquidated damages a sum equivalent to 1% of the delivery price of the delayed goods or unperformed services for each week of delay until actual delivery or installation/commissioning up to a maximum deduction of 5% of the contract price for delayed goods or installation and commissioning. Once the maximum is reached (i.e 5 weeks of delay) OREDA may consider termination of the contract and forfeit the security deposit without prejudice to the other remedies of the contract.

If at any time during the performance of the Contract, the Supplier or its subtle executants(s) should encounter conditions impeding timely delivery of the Goods and performance of the Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of the Contract.

A delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of liquidated damages pursuant, unless an extension of time is agreed upon without the application of liquidated damages.

#### **4.10 Termination for Default**

The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or in part:

- 4.10.1 if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Purchaser; or
- 4.10.2 if the Supplier fails to perform any other obligation(s) under the Contract.
- 4.10.3 If the supplier, in the judgement of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

For the purpose of this clause:

“Corrupt practice” means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the borrower, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the borrower of the benefits of free and open competition.

In the event the Purchaser terminates the Contract in whole or in part, the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar Goods or services. However, the Supplier shall continue the performance of the Contract to the extent not terminated.

#### **4.11 Inspection:**

Pre delivery inspection of major components may be carried out by a team of designated officials of OREDA, any other department as may be considered appropriate at the factory site of the vendor / manufacturer. Before despatch of consignment intimation shall be given sufficiently ahead so that no delay occurs for deputing officials and inspection at the premises / test site.

4.11.1 The rest of the tests and inspections shall be made at the place of delivery. Officers authorized by OREDA shall be entitled at all reasonable time to inspect and supervise and test during erection and commissioning. Such inspection will not relieve the executing firm of their obligation in the contract. The water output as per technical specification has to be guaranteed without any controversies of variation of water table.

4.11.2 OREDA shall have the right to have the tests carried out at its own cost by an independent agency at any point of time.

#### **4.12 Payment:**

Payment will be made in instalment of solar water pumping system installed out of the total supply / installation order issued against the respective in the following manner

- i) Total value of systems with full taxes / duties (excluding CMC charges) will be made after commissioning of the project. The check list of documents to be submitted along with the bills and Security cum Performance Bank Guarantee for release will be as per the purchase order issued.

For processing of the payment the indicative documents are to be submitted like (Annexure-B,C,D,E,F) all technical detail of the installed system, inspection and testing report, location map of the System, GPS based photograph wherever available of the hand pump, OH tank and solar PV array, System handing over report, Warranty certificate, Joint commissioning certificate or any other documents as may be required.

- ii) In case of non submission of Security cum Performance Bank Guarantee 10% amount shall be retained from the respective bill till submission of the same.

#### **4.13 Allocation of award & Execution:**

**All supply / installation orders shall be placed with the state local registered office of the qualified empanelled bidders having valid Odisha TIN/ OVAT as per the FD circular no 5439 dtd 25.2.14.**

**Minimum 30 % total allocation of work will be awarded to the lowest evaluated responsive bid (L1). However, the firm work order will be placed on availability and feasibility of habitations from RWS&S and subsequent performance of the firm.**

In case of L1 rate being quoted by more than one bidder, the work to be executed shall be equally divided among them.

In case the L1 bidder fails to execute the work adhering to conditions of the work order, L2 / L3(in that order) may be asked to execute the work if they match the L1 rate.

In view of large geographical spread and expeditious completion of the project, it is imperative that there shall be multiple vendors subject to their acceptance to the L1 price discovered in the tender.

#### **4.14 Comprehensive Maintenance Contract:**

CMC will be applicable during the period of the warranty period of 5 years. The bidder must enter into a Comprehensive maintenance contract for the specified period at the time of execution of the order. Offer without such CMC shall not be considered (sample format of CMC enclosed at Annexure). The scope of CMC must cover supply of all spare parts, services and performance reports during the contract in force. Order shall be placed on bidders who agree to offer such CMC. The payment of annual maintenance charges under the Comprehensive Maintenance Contract shall depend upon the functionality of the system duly certified by the concerned Authorised officials of OREDA. Upon receipt of such certificates CMC amount as applicable shall be paid at the end of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> years.

**4.15 Limitation of Liability:**

OREDA, will, in no case be responsible for any accident fatal or non-fatal, caused to any worker or outsider in course of transport or execution of supply / installation. All safety measures as per prevailing norms should be adopted. All the expenditure including treatment or compensation will be entirely borne by the Executants. The Executants shall also be responsible for any claims of the workers including PF, Gratuity, ESI & other legal obligations. The executants shall take all steps towards the security compliances.

**4.16 Force Majeure:**

In no event shall either Party have any liability for failure to comply with this Agreement, if such failure results directly from the occurrence of any contingency beyond the reasonable control of the Party, including, without limitation, strike or other labor disturbance, riot, major power failure, war, natural calamities including but not limited to floods, earthquakes, fire, volcanic eruptions, epidemics, National Emergency, interference by any government or governmental agency, embargo, seizure, or enactment or abolition of any law, statute, ordinance, rule, or regulation (each a " Force Majeure Event"). In the event that either Party is unable to perform any of its obligations under this Agreement because of a Force Majeure Event, the Party who has been so affected shall as soon as may be, after coming to know of the Force Majeure Event, inform the other Party and shall take reasonable steps to resume performance as soon as may be after the cessation of the Force Majeure Event. If the period of nonperformance due to a Force Majeure Event exceeds thirty (30) days, the Party whose ability to perform has been so affected may, by giving written notice, terminate this Agreement.

**4.17 Dispute:**

For adjudication of any dispute between OREDA and the bidders arising in this case, reference can be made to any Law courts under the jurisdiction of Odisha High court only. The Chief Executive, OREDA reserves the right to accept or reject any or all bids without assigning any reason thereof.

Sd/-

**Chief Executive**

I/We have carefully read and understood the above terms and conditions of the bid and agree to abide by them.

**Signature of the bidder with**

**Seal**

## ANNEXURE-A

**5. TECHNICAL SPECIFICATION**

**DEFINITION:** Solar energy based dual pump piped water supply scheme includes complete solution for supply, installation, commissioning and Comprehensive Maintenance contract (CMC) for 5 years. The solar dual pump should consist of arrangement of installation of solar photovoltaic submersible pump in the hand pump in the same bore well/Tube well.

System should consist Solar Panels, Hot dip galvanized Tank Tower Structure (3m ht) suitable for HDPE (5000 liters) with relevant IS specification, Auto Water Level Controller, required no of common Stand Post.

**I. Technical Specification of Solar Dual Pumping System:**

1. Maximum Pumping head - 90 mtr.
2. Daily yield of Solar Submersible Pump at solar irradiance 7kWh/m<sup>2</sup>/day- more than 5000 Ipd
3. Overhead Water Tank capacity - 5,000 liters HDPE Tank of relevant IS specification.
4. Galvanized Overhead Tank Structure height 3 mtr. in knocked down condition with provision for mounting panel structure above over head tank.
5. Stand post.
  - Battery bank should not be used as a backup system.
  - Solar panels should not be connected to submersible pump through either inverter or converter.
  - solar panels should be placed on top of the OHT for security. The system should be suitable for 100mm and above/onward bore size.

**II. Solar Submersible Pump:-**

- Light weight stainless steel helical rotor / equivalent submersible pump with MPPT pump controller with suitable indication and control, Permanent magnet brushless motor.
- Pump type - 1 HP, Positive displacement, Helical rotor / equivalent
- Rated rpm - 500 to 3600
- Rated voltage - 30 to 300V
- Rated current - 8.4 amp and 10 amp (max)
- Built-in features -
  - a. Outer dia should not be more than 96 mm,
  - b. Out let of the pump should be 32mm
  - c. Dry run protection
  - d. Wire to water efficiency not less than 50 %.
  - e. Over and under voltage protection
  - f. Overload protection



- g. Temperature protection
- h. ISI mark cable 3 core x 2.5 sq.mm.

### **III. Auto Water Level Controller without Battery:**

Automatic OFF/ON for controlling water level in the tank.

### **IV. Cable:-**

1. 3 core x 2.5 sq.mm cable as per IS 694- not more than 70 meters.
2. PVC Pipe J4 inch for covering cable for concealed connection - 15 mtrs.
3. Required nos. of Cable clips

### **V. Water Supply System**

**HDPE pipe as per IS of 63 mm size shall be used** from over head tank to stand post below ground level connection at a depth of minimum 60cm of required length with provision of 1/8 ferrule connection should be provided by the supplier. Only GI pipe of 50/32/25 mm size shall be used for over ground connection such as inlet, outlet and over flow connection of OHT and to distribution line connected to four mouth hot dip galvanised Common stand post with stainless steel self closing (304 grades) taps at a height 800mm. After testing of the pipe distributions and stand posts the trenches to be filled up with excavated earth up to a depth of 30 cm watering and riming and making good to the damages of the road as per pre road condition (WBM/CC/Bituminous).

### **VI. Solar PV Array:-**

The SPV water pumping system should be operated with a PV array capacity in the range of 225 Watts peak to 5000 Watts peak, measured under Standard Test Conditions (STC). Sufficient number of modules in series and parallel could be used to obtain the required PV array power output. The power output of individual PV modules used in the PV array, under STC, should be a minimum of 225 Watts peak, with adequate provision for measurement tolerances. Use of PV modules with higher power output is preferred.

Indigenously produced PV module (s) containing mono/ multi crystalline silicon solar cells should be used in the PV array for the SPV Water Pumping systems.

- Modules supplied with the SPV water pumping systems should have certificate as per IEC 61215 specifications or equivalent National or International/ Standards.
- Modules must qualify to IEC 61730 Part I and II for safety qualification testing.
- The efficiency of the PV modules should be minimum 14% and fill factor should be more than 70%.

The terminal box on the module should have a provision for "Opening" for replacing the cable, if required.

There should be a Name Plate fixed inside the module which will give:

- a. Name of the Manufacturer or Distinctive Logo.
- b. Model Number

c. Serial Number

d. Year of manufacture

Please refer to **Ministry of New and Renewable Energy, Jawaharlal Nehru National Solar Mission, SOLAR PHOTOVOLTAIC WATER PUMPING SYSTEMS (2013-14) and latest guidelines** for further compliance.

1. Mono/Multi-crystalline Solar Panels Capacity – 900 wp
2. Adequate anti-theft fittings need to be provided for each panel.

## **VII. Mounting Structure and Tracking System:-**

The PV modules will be mounted on metallic structures of adequate strength and appropriate design on top of the over head tank(OHT) having rigid joint which can withstand load of modules and high wind velocities up to 200 km per hour. The support structure used in the pumping system will be hot dip galvanized iron (G.I). The G.I. structures for mounting the Solar panels could be so designed, auto adjusted for optimal tilt throughout the year. The "Mounting Structure" should have the following features:

- The modules support structure shall be mild steel, hot dipped galvanized (120 micron) iron for holding the PV modules. The size of angle iron should not be less than 50x50x5 mm.
- Each panel frame structure shall be so fabricated as to be fixed over the OHT suitably. It will withstand severe cyclone/ storm with the speed of 200 Km/Hr. Each panel frame shall be complete with a weatherproof junction box as per the relevant BIS specifications, where the module terminals shall be interconnected and output taken.
- All nuts and bolts should be made of very good quality and should be corrosion resistant.
- The structure should be designed to allow easy replacement of any module.
- The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels.

**In case of extreme location difficulty due to shadow, local non unanimity of site etc it may be explored to segregate module mounting and OHT as follows**

- **The modules support structure shall be mild steel, hot dipped galvanized (120 micron) iron for holding the PV modules. The size of angle iron should not be less than 50x50x5 mm.**
- **Each panel frame structure shall be so fabricated as to be grouted on ground of min 2.5 meter above ground level on a single galvanized iron pole of 100 mm dia with 4.8 mm thickness. It will withstand severe cyclone/ storm with the speed of 150 Km/Hr.**

## **VII. Overhead Tank Structure:-**

- Tender should provide design and drawings of structure along with bid.
- G I Structure should be strong enough (Main columns and base frame for Overhead Tank be made out of minimum of 90mm x 90mm x 4.8 mm square tube) to hold minimum of 7.5 tonnes of weight and cater to a minimum of 200 km/hr. wind speed. RCC foundation should be strong enough to hold weight of structure and water tank and the PV modules. Foundation bolt - M -16X700mm (length)-16 nos. 4 nos. for each concrete foundation.
- The structure should be sized to hold 5,000 litres HDPE water tank of relevant IS specification.
- The structure should be hot dip galvanized (minimum thickness 60 microns).
- Height at which the tank is kept is 3 mtrs. minimum and height at which the panels are placed is 5 meters minimum from the ground
- **Overhead Tank Structure should be erected on suitable solid foundation made of reinforced cement concrete as per the ground requirement. Tenderer should provide approved design and valid certificate from certified structural engineer at the time of submitting the bid.**
- Overhead HDPE water tank with 2 layers-5000 litre capacity -IS 12701

#### **VIII. Civil Supply / installation:-**

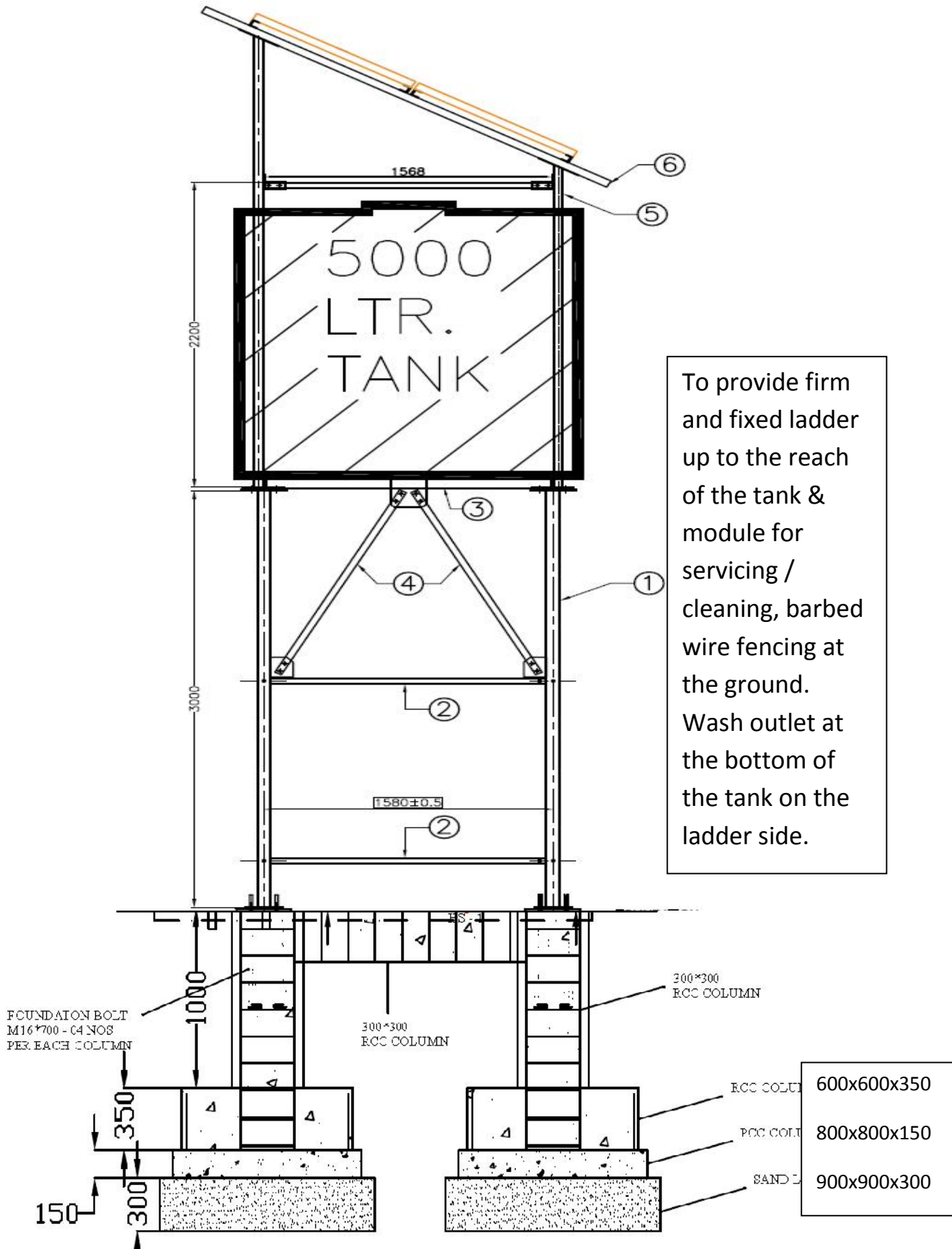
1. Civil supply / installation essential for erection of Overhead Tank Structure as per local site conditions and soil formation.
2. Civil supply / installation essential for erection and skirting of Stand Post - 2mtr x2mtr.
3. Civil supply / installation essential for construction of new hand pump platform as per RWS&S specification.

#### **IX. Warranty**

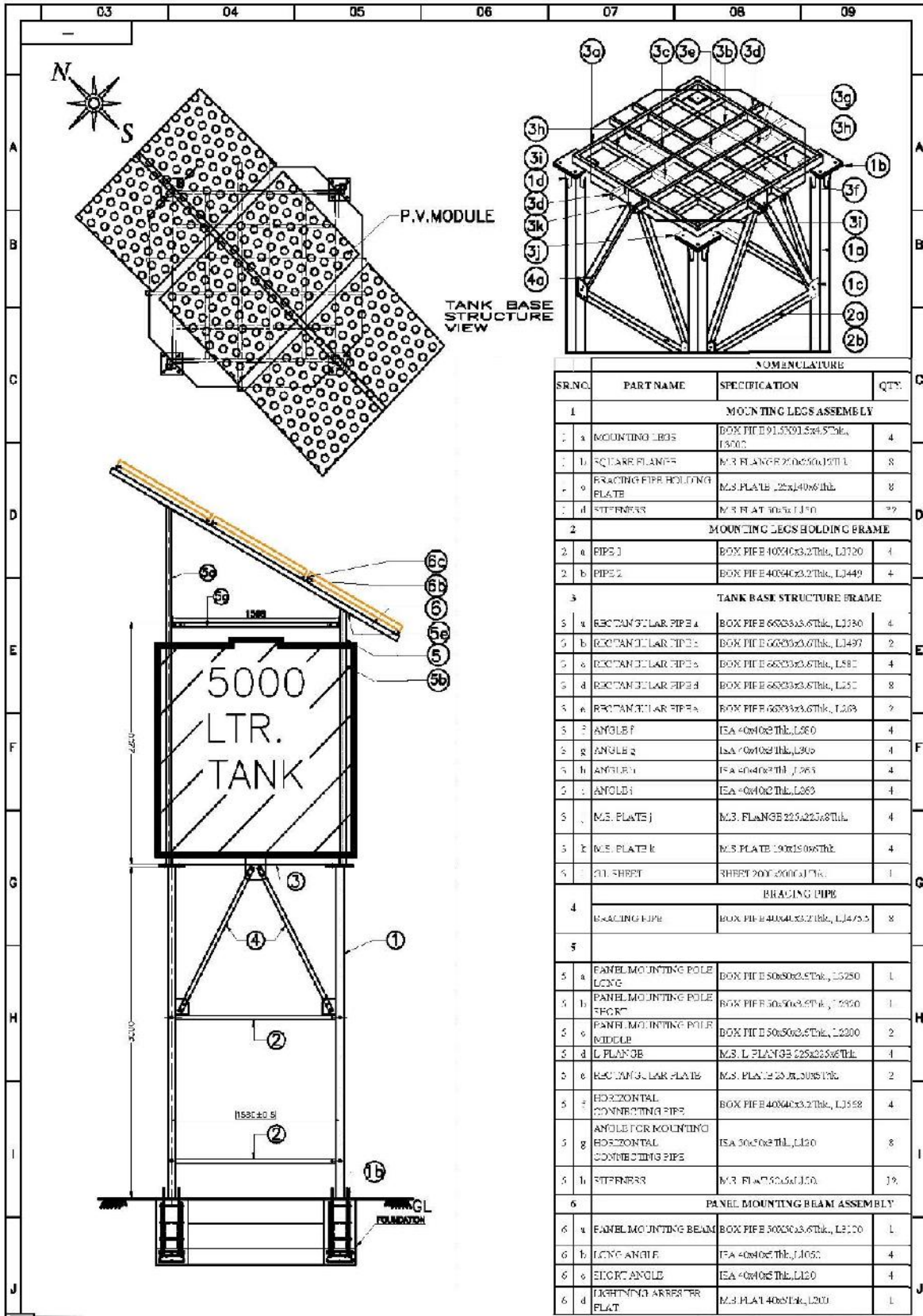
1. Complete system would be under warranty for a period of 5 years from the date of completion of one year defect liability period against any manufacturing defects.
2. SPV Modules will contain warranty of 10 year for 90 % peak output 25 years for 80 % peak output from the date of commissioning of system.

Minimum Reference drawing

**Sample plan-drawing for reference as follows, detail certified structural drawing to be submitted along with the tender document for all items.**



To provide firm and fixed ladder up to the reach of the tank & module for servicing / cleaning, barbed wire fencing at the ground. Wash outlet at the bottom of the tank on the ladder side.



NOMENCLATURE			
SR.NO.	PART NAME	SPECIFICATION	QTY.
<b>1 MOUNTING LEGS ASSEMBLY</b>			
1 a	MOUNTING LEGS	BOX PIPE 91.5591.5x4.5Thk., L3002	4
1 b	SQUARE FLANGE	M.S. FLANGE 225x225x8Thk.	8
1 c	BRACING PIPE HOLDING PLATE	M.S. PLATE 120x140x6Thk.	8
1 d	STIFFNESS	M.S. FLAT 30x5x1.5	72
<b>2 MOUNTING LEGS HOLDING FRAME</b>			
2 a	PIPE 1	BOX PIPE 405x43x2Thk., L3120	4
2 b	PIPE 2	BOX PIPE 405x43x2Thk., L3449	4
<b>3 TANK BASE STRUCTURE FRAME</b>			
3 a	SECTIONAL PIPE 4	BOX PIPE 663x3x3.6Thk., L3130	4
3 b	SECTIONAL PIPE 1	BOX PIPE 663x3x3.6Thk., L4497	2
3 c	SECTIONAL PIPE 5	BOX PIPE 663x3x3.6Thk., L582	4
3 d	SECTIONAL PIPE 3	BOX PIPE 663x3x3.6Thk., L252	8
3 e	SECTIONAL PIPE 2	BOX PIPE 663x3x3.6Thk., L268	2
3 f	ANGLE F	ISA 40x62Thk., L260	4
3 g	ANGLE 2	ISA 40x62Thk., L260	4
3 h	ANGLE 1	ISA 40x62Thk., L263	4
3 i	ANGLE 3	ISA 40x62Thk., L263	4
3 j	M.S. PLATE J	M.S. FLANGE 225x225x8Thk.	4
3 k	M.S. PLATE K	M.S. PLATE 190x150x6Thk.	4
3 l	GL SHEET	SHEET 200x200x1Thk.	1
<b>4 BRACING PIPE</b>			
4	BRACING PIPE	BOX PIPE 405x43x2Thk., L3475.5	8
<b>5 PANEL MOUNTING BEAM ASSEMBLY</b>			
5 a	PANEL MOUNTING POLE LONG	BOX PIPE 50x50x3.6Thk., L5250	1
5 b	PANEL MOUNTING POLE SHORT	BOX PIPE 50x50x3.6Thk., L2950	1
5 c	PANEL MOUNTING POLE MIDDLE	BOX PIPE 50x50x3.6Thk., L3200	2
5 d	L FLANGE	M.S. L FLANGE 225x225x6Thk.	4
5 e	SECTIONAL PIPE	M.S. PLATE 20x20x3Thk.	2
5 f	HORIZONTAL CONNECTING PIPE	BOX PIPE 405x43x2Thk., L3528	4
5 g	ANGLE FOR MOUNTING HORIZONTAL CONNECTING PIPE	ISA 50x50x3Thk., L120	8
5 h	STIFFNESS	M.S. FLAT 30x5x1.5	12
<b>6 PANEL MOUNTING BEAM ASSEMBLY</b>			
6 a	PANEL MOUNTING BEAM	BOX PIPE 50x50x3.6Thk., L3120	1
6 b	LONG ANGLE	ISA 40x62Thk., L3052	4
6 c	SHORT ANGLE	ISA 40x62Thk., L120	4
6 d	LIGHTNING ARRESTOR PLAT	M.S. PLAT 405x43x1.200	1



## ANNEXURE-B

**Joint Commissioning Cum Handing Over certificate and Pump**

- (1) Village \_\_\_\_\_ Block \_\_\_\_\_ District \_\_\_\_\_
- (2) Supply / installation Order No.: \_\_\_\_\_ Date: \_\_\_\_\_
- (3) Actual Date of Commissioning: \_\_\_\_\_
- (4) Name & address of the executants: \_\_\_\_\_

It is hereby certified that the executants M/s-----  
----- has successfully installed & commissioned the \_\_\_\_\_ Watt SPV Hand Pump in Village \_\_\_\_\_ on \_\_\_\_\_ (date) with all components as mentioned in Annexure I appended hereto, as per the terms and conditions of the supply / installation order mentioned at serial No. (2) above.

The supply / installation has been fully executed as per the supply / installation order and it is handed over in good working condition. The executants shall provide complete warranty against all manufacturing defects and defective/erroneous installation for a period of FIVE years from this date of handing over. (The warranty certificate, operation & maintenance manual, necessary spare parts, tool kit & engineering documents have been handed over to OREDA. The above-mentioned SPV Hand Pump is hereby handed over by the executants to RWSS / VWSC in fully satisfactory working condition.

<b>Seal and</b>	<b>Seal and</b>	<b>Seal and</b>	<b>Seal and</b>
<b>Signature</b>	<b>Signature</b>	<b>Signature</b>	<b>Signature</b>
<b>Sarpanch/VWSC</b>	<b>Authorized</b>	<b>OREDA</b>	<b>RWSS</b>
	<b>In-Charge</b>	<b>Officer</b>	<b>Officer</b>

## ANNEXURE- C

## DETAIL OF SYSTEM INSTALLED

S N	Name of the items installed/supply / installations commissioned at site	Unit	Quantity	Remark
1	SPV Modules of _____Wp each of _____make as per tender specifications along with IV curve details of every individual panel with anti theft fittings with lightning arrester.	No.		
2	1 HP(equivalent) Submersible DC, HR /equivalent pump with MPPT pump controller with suitable indications and controls	No.		
3	All fittings for conversion of hand pump to dual pump including SS cylinder, nipple, water chamber, strainer / filter.	Set		
4	HDPE (ISI) Overhead Tank of HDPE capacity 5000 liters with Suitable Hot Dipped Galvanized Structure and civil installation as per design	Set		
5	Auto Water Level Controller without Battery	Set		
6	Cable recommended	mtr/no		
7	Taps / Common stand post and platform with proper drainage channel arrangements two set	Set		
8	GI / UPVC/HDPE Pipe with valves	mtr/no		
9	Civil Supply / installation of Platform for Pump with proper drainage channel arrangements	Mtr & no.		
10	Firm and fixed ladder up to the solar module for cleaning , barbed wire fencing at the base ground etc	no.		
11	Others if any ,(pl specify)			

Seal and  
Signature

Sarpanch/VWSC

Seal and  
Signature

Authorized  
In-Charge

Seal and  
Signature

OREDA  
Officer

Seal and  
Signature

RWSS  
Officer



## ANNEXURE-D

**WARRANTY CERTIFICATE**

----- (hereinafter referred as “The executant”) offers warranty of the Solar water pumping system as under:

This Warranty applies to the items / goods manufactured and supplied by the “The executants” consisting of pump set, controller, solar panels and accessories.

The “Company” warrants the solar water pumping system only against manufacturing defects. Faulty materials &/or workmanship for a period of 5 years from the date of commissioning.

Within the warranty period “The executants” undertakes to repair or replace any part/component found to be having manufacturing defects or unserviceable immediately upon its knowledge. “The executants” shall be under no obligation under this warranty, if the company is satisfied that the defects are due to improper usage, negligence, any modifications / alterations or tampering, accident, act of god or installation / repairs carried out by any person not duly authorized by “The executants” or by any reason beyond the control of “The executants” such as theft, war, earthquake, flood or storm & such other natural calamities like hailstorm, typhoon or cyclone uprooting of trees or electric poles, wire & radio or T.V. Antennas etc. causing accident damage to the system.

Under the warranty, no responsibility is accepted for any consequential loss or damage caused by any defect due to tampering to the system.

Any part, component or system replacement shall be granted in exchange of the defective part, component or system to the company by.

This warranty in no case shall extend to payment of any monetary consideration or compensation.

This warranty excludes any damage inflicted by animals such as monkeys, domestic animals, birds or any creatures or miscreants.

This warranty excludes damages to the pump / motor due to foreign material like sand, clay coming along with water or due to collapse of bore well / tube well formation.

**Authorized Representative**

## ANNEXURE-E

SITE SELECTION CRITERIA

Name of Village: -

Block:-

District

Location of Borewell:- \_\_\_\_\_

(e.g Distance from \_\_\_\_\_

Other land mark) \_\_\_\_\_

Type of Existing Pump  4inch  6 inch  Other \_\_\_\_\_

Depth of Bore well as per Record \_\_\_\_\_ meters

Existing Depth of Bore well ( \_\_\_\_\_ meters

Length of Casing Pipe \_\_\_\_\_ meters

Yield of Bore well (Min. 2,500 lit./hr) \_\_\_\_\_ liters/hour

Static Water Level \_\_\_\_\_ meters  
below ground level.

Pumping Water level \_\_\_\_\_

(Max.40 hrs where water level is stable \_\_\_\_\_ meters below ground level.

while pumping).

Material Delivery Contact

Material Delivery

(Person to approach when delivering

Name, Place (location to store)

Equipment &amp; material).

Mobile \_\_\_\_\_

\_\_\_\_\_ its the executants are allowed to supply / installation for the installation of Solar  
Dual Pump System.**Sarpanch / village representative****Authorized Officer, RWSS**

## ANNEXURE- F

**SITE SELECTION CRITERIA**

Name of Village:-

Block:-

District:-

- Yield of the bore well should not be less than 2,500 liters / hour.
- Pumping Water Level should be more than 40 meters.
- Identified bore well should not have any obstacles such as tree roots stones etc.
- Identified bore well diameter should not be less than 100 mm or 4 inches.
- Water from the identified bore well should not be muddy at the depth at which the pump is expected to be installed.
- Tank tower location should not have any tree in the 15 meter periphery.
- The tank tower location should not have any transmission lines in the vicinity.
- Building structures more than 3 meters tall should not be near the tank tower location so that no shadow of any tree or house falls on the tank tower through the day.
- Distance between the stand post and tank tower should not be more than 15 meters and the distance between bore well and tank tower should not be more than 15 meters.
- The stand post location should have natural slope for drainage of accumulated water.

**Sarpanch / Gramsevak/****Member of Panchayat****RWSS****Authorized Officer**

## ANNEXURE-G

**Scope of Comprehensive maintenance of Solar energy based dual pump piped water supply systems for a period of 5 years. (Contract draft subject to revision)**

All materials, components of the Solar energy based dual pump piped water supply systems during the period of maintenance shall be the property Village Committee where the system is installed.

Regular maintenance of the all Systems for a period of 5 years of warranty against manufacturing defects after commissioning along with supply of consumable items as and when necessary and submission of daily performance of solar submersible pump systems shall come, under the comprehensive maintenance contract.

The break down maintenance of the entire system including supply of necessary spare parts, if any are already under the coverage of warranty clause of the General Terms & Condition and special terms & condition for a period of 5 years from date of commissioning of solar submersible pump systems. The operation and maintenance schedule of the SPV solar submersible pump systems during the 5 years contract period shall be as detailed below.

1. 5 years comprehensive maintenance period shall begin on the date actual commissioning for the solar submersible pump systems. The requisite numbers of qualified and trained personnel are required to be deputed / available in the state.
2. The security of the solar submersible pump systems will rest with the village committee till such time comprehensive maintenance of the solar submersible pump systems.
3. The deputed personnel shall be qualified and well trained so that they can handle any type of operation hazard quickly and timely.
4. The deputed personnel shall have to keep the record on quarterly basis for the solar submersible pump systems as per format to be supplied after commissioning of the solar submersible pump systems.
5. The deputed personnel shall be in a position to check and test all the equipment regularly, so that preventive actions, if any, could be taken well in advance to save any equipment from damage.
6. The Village Committee shall keep clean the solar submersible pump systems in all time.
7. Normal and preventive maintenance of all systems all electrical connection, changing of tilt angle of module mounting structure shall be the responsibility of the supplying agency.

8. During the maintenance period of 5 years of the solar all systems, if there is any defect of any component of all systems the supplier shall be responsible for immediate replacement / rectification. The damaged component may be repaired, if it is understood after examination that after repairing performance of the component shall not be degraded, otherwise the defective component shall have to be replaced by new one without any extra cost.
9. List of spare parts & measuring instruments are to be supplied along with the systems may be specified in the bid.

#### 10. Comprehensive Maintenance Instructions:

- 10.1 The executants shall furnish prior to completion of the supply / installations 4 copies of maintenance instruction in Odiya / English for approval and supply 5 sets of the approve manuals of instructions at the time of inspection and taking over of the equipment. These manuals shall properly bound in book form and contain all information, description of equipment, diagram etc. necessary to enable the customer to operate and maintain the whole scheme.
- 10.2 Proper maintenance of the systems shall be carried out by the executants during the maintenance period of 60 months with 6 monthly / annual review check up of systems and equipment in detail with purchaser.
- 10.3 Properly qualified and trained personnel well versed in maintenance of SPV systems and knowledge of computers with approval from purchaser shall be deployed at site for maintenance.
- 10.4 Proper repainting, re-coating of exposed surfaces to prevent rusting & replacement of worn out parts shall be carried out along with the maintenance.
  - Systems personnel shall be deputed on such basis so that a qualified / trained person with a minimum Technical qualification should be available at site always during the maintenance period.
  - Supplier shall depute on engineer of their company for the maintenance of the systems who shall be fully responsible for the complete maintenance and optimum operation of the systems. The name and contact nos. of this engineer shall be notified to the purchaser for the purpose of contact, responsibility and correspondence with regard to all trouble shooting.
  - Replacement & repair of damaged parts shall be carried out immediately during the maintenance period so as to ensure at least 95% uptime.

- Systems operation reports in a format prescribed by the purchaser shall be furnished by the supplier on a weekly and monthly basis.
- Systems shall be operated as per the standard practices to ensure proper safety measures.
- The supplier shall ensure replacement of worn out parts and component during the comprehensive maintenance period for which purpose the supplier shall carry and maintain minimum inventory of spares at the systems and its supply / installations.
- In case of delay in repair & maintenance and non-observance of schedule, the purchaser shall have the right to impose any penalties including forfeiture of performance security.
- In case of any fault, the fault must be removed within 2 days of receipt of the complaint, failing which a penalty of Rs.1,000/- per day shall be charged. In case of delay of more than 7 days OREDA may on its take up repair by any suitable method and the cost of the repair along with the penalty amount will be charged from the supplier to be paid or deducted from the performance security deposit by invoking the BG in part to the extent of the repair cost. However, under Force Majeure circumstances penalty can be waived off.

#### 10.5 Routine, preventive, breakdown& Capital Maintenance :

- Routine and Preventive maintenance shall include such checks and maintenance activities quarterly / half yearly and yearly basis which are required to be carried out on all the components of the solar submersible pump systems to minimize breakdown and to ensure smooth and trouble free running of the all systems. The supplier shall be responsible to carryout routine and preventive maintenance and replacement of each and every component/ equipment of the solar submersible pump systems and he shall provide all labour, materials, consumables etc. for routine and preventive maintenance of his own cost.
- Breakdown maintenance shall mean the maintenance activity including repairs and replacement of any component or equipment of the all systems which is not covered by routine and preventive maintenance and which is required to be carried out as a result of sudden failure / breakdown of that particular component or equipment while the systems is running. The supplier shall be responsible to carry out breakdown maintenance of each and every component of the solar submersible pump systems and he shall provide the required manpower, materials, consumables, components or equipment etc. for breakdown maintenance at his own cost irrespective of the reasons of the breakdown/ failure.

- Capital maintenance shall mean the major overhaul of any component or equipment of the solar submersible pump systems which is not covered by routine, preventive and breakdown maintenance which may become necessary on account of excessive wear & tear, aging which needs repair / replacement. The capital maintenance of solar submersible pump systems and all civil structures shall normally be planned to be carried out on an annual basis. For this purpose a joint inspection by the supplier and purchaser shall be carried out of all the major components of the solar submersible pump systems, about two months in advance of the annual maintenance period. In order to ascertain as to which components of the solar submersible pump systems require capital maintenance. In this regard the decision of the purchaser will be final and binding. However, if the condition of any systems and component warrants its capital maintenance at any other time, a joint inspection of the purchaser and supplier shall be carried out immediately on occurrence of such situation and capital maintenance shall be carried out. If required, in consultation with concerned authorities. The decision of the purchaser shall be final and binding.

**Signature of the bidder**

## ANNEXURE-H

**Annexure-II of Finance Department Office Memorandum 4939 dtd 13.2.12, Govt  
of Odisha**

**Model Bank Guarantee Format for Performance Security**

[Ref Para 22(i1)]

To

WHEREAS----- (name and address of the supplier) (hereinafter called "the supplier") has undertaken. in pursuance of contract no----- dated----- to supply -----(description of goods and services) (herein after called "the contract")'

AND WHEREAS it has been -stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein, as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we, are guarantors and responsible to you on behalf of the supplier. up to a total of ----- . (Amount of the guarantee in words and figures). and we undertake to pay you. Upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid. without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your- demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other 'modification of the terms of the contract to be performed there under or of any of the contract documents --which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change. Addition or modification.

This guarantee shall be valid until the day of-----20----- .

Our branch at \* (Name & Address of the \_\_\_\_ \* branch) is liable to pay the guaranteed amount depending on the filing of claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our----- \* branch a written claim or demand and received by us at our \_\_\_\_ \* branch on or before Dt.----- otherwise bank shall be discharged of all liabilities under this guarantee thereafter.

(Signature of the authorized officer of the Bank)  
Name and designation of the officer



Seal. name & address of the Bank and address of the Branch