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**ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE POST, BANGALORE-560 089**

We have a requirement of the goods and services as indicated below, tender for which you are invited to submit your most competitive quotation for the same. All the relevant details are given below.

The tender document contains the following:-

- Annexure-I - “ Specification and other details ”**
Annexure II – “ Instructions for Online Bid Submission ”

Tender Enquiry No. : F. No. 5-120/2017-18/SP/ Supply & Installation of Solar Panel	
Date and Time for Issue/Publishing	14.02.2018 at 04.00 PM
Document Download Date and Time	14.02.2018 at 04.00 PM
Bid Submission start Date and Time	14.02.2018 at 04.00 PM
Bid Submission End Date and Time	26.02.2018 at 03.00 PM
Date and Time for Opening of Bids	28.02.2018 at 11.00 AM

IMPORTANT NOTES:-

- i. Tender Documents can be downloaded from IIHR website www.ihr.res.in or from the Central Public Procurement Portal www.eprocure.gov.in. Bidders should enroll / register in the e-procurement module of Central Public Procurement Portal through the website : www.eprocure.gov.in for participating in the bidding process. Bidders should also possess a valid DSC for online submission of bids.
- ii. **Bids received on e-tendering portal only will be considered. Bids in any other form sent through sealed cover/email/post/fax etc. will be rejected.**
- iii. The Director, IIHR reserves the right to accept / reject any or all the tenders in part /full without assigning any reason thereof.
- iv. IIHR will not be responsible for any delay in enrollment / registration as bidder or submitting /uploading the offer on e-tender portal. Hence, bidders are advised to register in e-tendering website www.eprocure.gov.in and enroll their Digital Signature Certificate and upload their quotation well in advance.
- v. Any change / corrigendum/ extension of opening date in respect of this tender shall be issued through websites only and no press notification will be issued in this regard. Bidders are therefore requested to regularly visit our website for updates.
- vi. The tender form/bidder documents may be downloaded from the website: <https://eprocure.gov.in/eprocure/app>. Online submission of Bids through Central Public Procurement Portal (<https://eprocure.gov.in/eprocure/app>) is mandatory. Manual bids shall not be accepted.

- vii. Tenderers/bidders are requested to visit the website <https://eprocure.gov.in/eprocure/app> regularly. Any changes/modifications in tender enquiry will be intimated by corrigendum through this website only.
- viii. In case, any holiday is declared by the Government on the day of opening, the tenders will be opened on the next working day at the same time. The Ministry reserves the right to accept or reject any or all the tenders.

The Firms are required to furnish / upload copies of the following documents:

- I. Scanned copy of Firm's registration and GST No.
- II. RTGS detail of the firm.
- III. Scanned copy of similar contracts to Government Departments.

We agree to supply the above goods and allied services. We confirm that the same will meet the description, specification and other technical details as required in the tender enquiry.

We conform that we agree to all other terms and conditions of your tender enquiry including the terms of delivery, period of delivery and warranty provision.

We have furnished all the information, as required in the tender enquiry and attached the relevant documents.

(In case a tenderer desires to put some additional/modified stipulations, terms and conditions etc. the same may be clearly indicated).

We confirm that our offer will remain valid for acceptance for **180days** after the date of opening of tenders.

Sd/-

ASSISTANT ADMINISTRATIVE OFFICER (SP)



ಭಾರತೀಯ ತೋಟಗಾರಿಕೆ ಸಂಶೋಧನಾ ಸಂಸ್ಥೆ
भारतीय बागवानी अनुसंधान संस्थान
INDIAN INSTITUTE OF HORTICULTURAL RESEARCH (ICAR)
ಹೆಸರಗಟ್ಟು ಕೆರೆ ಅಂಚೆ, ಬೆಂಗಳೂರು-೫೬೦೦೮೯.
ಹೆಸರಗಟ್ಟು ಲೇಕ್ ಪೋಸ್ಟ್, ಬೆಂಗಳೂರು - 560 089
HESSARGHATTA LAKE POST, BANGALORE - 560 089



F.No.5-120/2017-18/SP/Supply & Installation of Solar Panel/

Dt:14.02.2018

Sir,

You are invited to submit your most competitive quotation for the following works:-

Sl. No.	BRIEF DESCRIPTION OF THE WORKS	EMD
1.	Solar based power generation includes of one set of solar panel and three 5 hp motor pump, VFD drive Pipes, pipes fighting's cables, civil work underground cabling CMC AND AMC of five years - At CHES, Hirehalli. (Specification : Enclosed Annexure -I)	Rs.10,000/-

To assist you in the preparation of your Quotation, we are enclosing the following details of work:-

1. The Contract shall be for the whole works as described in the specifications, Corrections if any shall be made by crossing out initialing, dating and reviewing.
2. The CGST, SGST & IGST Rates and amount should be shown separately in the quotation along with GST Number otherwise quotation will be rejected.
3. The Rates quoted by the Bidder shall be valid at least for a period of not less than **180 Days**.
4. The rates quoted by the bidder shall be fixed for the duration of the Contract and shall not be subject to adjustment on any account.
5. The bidder is advised to visit the site of works at his own expenses and obtain all information that may be necessary for preparing the quotation.
6. Each Bidder shall submit only one Quotation.
7. Notwithstanding the above, the IIHR reserves the right to accept or reject any Quotations and to cancel the bidding process and reject all Quotations at any time prior to the award of contract.
8. No advance or part payment will be given. Payment will be arranged only after Satisfactory completions of the work duly certified by the works unit of IIHR.
9. Quotations should be submitted along-with Earnest Money Deposit (Interest Free) of **Rs.10,000/-** for the above item by way of Demand Draft drawn in favour of the Director, Indian Institute of Horticultural Research, Bangalore 89 payable at Central Bank of India, Hesaraghatta Branch, Bangalore 89. Quotations without EMD or insufficient EMD will not be considered. The EMD will be liable to be forfeited, if the Contractor/Agency withdraws or amend, impairs, or derogates the Quotation, in any respect within the period of validity of this Quotation. **(If any firm/Contractor has EMD exemption, they must attach copy of exemption certificate with quotation).**

10. EMD of unsuccessful agency/contractor (except L1, L2 & L3) remitted in the form of DD will be returned to the concerned contractor without any interest thereon, as early as possible.
11. The EMD amount is to be deposited in the tender box with superscription before due date.
12. The Successful Bidder shall have to deliver the performance security either by a Bank Guarantee or a Bank Draft in favour of the Director IIHR, for an amount equivalent of 10% of the Contract price. The Performance Security shall be valid till the expiry of the period/ maintenance of work.
13. Income tax will be deducted from the total bill of the executing agency/contractor as per govt. Rate.
14. only those firms/agencies/contractors registered with CPWD/KPWD/Railways/MES need apply.
15. For water & Electricity supplied by this institute 2% of the cost shall be recovered.
16. Penalty will be imposed at 0.50% per week maximum to 10% of the total cost of work, if works are not completed within scheduled item or mutually extended period. The Director, IIHR, may cancel the contract and take recourse to such other action as deemed appropriate once the total amount of liquidated damages exceeds 10% of the contract amount.
17. **The bidders have to enclose the photo copy of the documents viz Registration Number with KPWD/CPWD/MES/Railways registration details, pan no/copies of the IT returns for the previous three years , Tin no./GST registration No./labour registration no./experience in executing similar works.,**
18. **The bill is to be submitted in triplicate in GST prescribed Performa with details of CGST,SGST and IGST rates, amount and GST number.**

You are requested to provide your offer latest by **26.02.2018 up to 3.00 PM** through CPPP only.

Yours faithfully,

Sd/-

Encl: As above.

ASSISTANT ADMINISTRATIVE OFFICER (SP)

Specification for Solar based power generation includes of one set of solar panel and three 5 hp motor pump, VFD drive Pipes, pipes fighting's cables, civil work underground cabling CMC AND AMC of five years - At CHES, Hirehalli..

Specifications

SUPPLY AND INSTALLATION OF SOLAR PANEL OF LIGHTING/ WATER PUMPING AND POWER GENERATION

Solar based power generation includes of one set of solar panel and three 5 hp motor pump, VFD drive Pipes, pipes fighting's cables, civil work underground cabling CMC AND AMC of five years.

Brief about solar system:

Torun two 5 HP system with one 4.8 KW PV system (ANY One motor of three motor)

Three motors placed in different places of land max distance id 500M.

Motor pump To be supplied below specifications

- 1) 50 M head discharge 24 liters/ wp
- 2) 70 M head discharge 18 liters/wp

TECHNICAL SPECIFICATIONS OF SOALR BASED POWER GENERATION FOR 5HP AC/DC SOLAR WATER PUMPING SYSTEM

INTRODUCTION

The solar photovoltaic (SPV) water pumping system consists of:

- PV array : - Capacity: 4800 Wp - Should be mounted on a suitable structure with a provision of tracking the sun
- Motor Pump Set (Submersible) - DC motor pump set (with Brushes or Brush less D.C) OR - A.C. Induction Motor Pump Set with a suitable Inverter
- Electronics : - Maximum Power Point Tracker (MPPT) - Controls / Protections.
- Interconnect Cables and “On-Off” switch.

PV ARRAY

The SPV water pumping system should be operated with a PV array of 4800Wp capacity, 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 200 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.
- Modules must qualify IEC 61701/IS 61701
- 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.
- Each PV module must use a RF identification tag (RFID), following information:
Name of the manufacturer of Solar cells, Month and year of the manufacture, Country of origin (separately for solar cells and module) , I-V curve for the module, Peak Wattage of the module, Im, Vm and FF for the module ,Date and year of obtaining IEC PV module qualification certificate, Name of the test lab issuing IEC certificate, Other relevant information on traceability of solar cells and module as per ISO 9000 series

MOTOR PUMP-SET

The SPV water pumping systems shall use Submersible motor pump set The “Motor Pump Set” should have suitable 5 HP capacity and should have the following features:

- The delivery head will depend on the site specific condition of the field
- Submersible pumps could be used according to the technical need of the particular case. It is recommended that all parts of the pump and the motor of the submersible pumps should be made of stainless steel.
- Delivery pipe (HDPE/GI), electric cables, floating assembly, civil work and other fittings required to install the system.
- The following details should be marked indelibly on the motor pump set a) Name of the Manufacturer or Distinctive Logb) Model Number. c) Serial Number.

MOUNTING STRUCTURES and TRACKING SYSTEM.

The PV modules should be mounted on metallic structures of adequate strength and appropriate design, which can withstand load of modules and high wind velocities upto 150 km per hour. The support structure used in the pumping system should be hot dip galvanized iron with minimum 80 micron thickness. To enhance the performance of SPV water pumping systems, manual or passive or auto tracking system must be used. For manual tracking, arrangement for seasonal tilt angle adjustment and three times manual tracking in a day should be provided.

ELECTRONICS AND PROTECTIONS

- Maximum Power Point Tracker (MPPT) should be included to optimally use the Solar panel and maximize the water discharge.
- Inverter with suitable VFD could be used, to operate an A.C. Pump.
- The inverter must have IP 54 protection or must be housed in a cabinet having at least IP 54 protection.
- Adequate protections should be incorporated against dry operation of motor pump set, lightning, hails and storms. Full protection against reverse polarity, overload, overvoltage, under voltage, Short Circuit and Phase imbalance should be provided.

- Controller should have minimum 94% efficiency.
- Certified for IEC 61683:1999 standard requirements.
- Certified for IEC 60068-2(1,2,14,30) standard requirements
- Sensor less, Electronic Dry Run Protection
- Automatic start and shut off as per solar intensity
- Soft start controlling in rush current, so motor burning possibility totally eliminated. Inbuilt VFD.
- Dust Proof , Visual LED and LCD based indications
- Will not restart automatically for faults like dry run, phase imbalance, output short circuits; unless attended.

Earthing and Lightning Protection:

Earthing: The array structure of the PV yard shall be grounded properly using adequate number of earthing kits. All metal casing or shielding of the pumping system shall be thoroughly grounded to ensure safety of the solar pumping systems.

Comprehensive operation and maintenance:

The Successful Bidder should provide 5 years comprehensive maintenance of the SPV pump set, which shall include corrective maintenance as well as routine service visits.

Transportation: The Supplier is required under the contract to transport the goods to specified locations defined as installation sites, transport to such places including insurance, as shall be specified in the contract, shall be arranged by the supplier, and the contract price shall include transportation costs.

Warranty

- a. The Supplier shall warrant that the Goods installed under this Contract are new, unused, of the most recent or current models and that they are as per the Technical Specification provided under this Contract.
- b. The Supplier further warrants that all Goods supplied under this Contract shall have no defect arising from design, materials or workmanship or from any act or omission of the Supplier that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.
The SPV panel shall carry a warranty of minimum 25 years.
- c. The SPV panel must be warranted for their output peak watt capacity which should not be less than 90% at the end of 10 years and 80% at the end of 25 years d. The motor pump sets and controller shall carry a warranty of minimum 5 years.
- d. The Motor Pump sets Distribution Boards or digital meters or switchgear and overall workmanship of the SPV pumping systems including mechanical structures and electrical works must be warranted against any manufacturing or design or installation or performance defects.
- e. The warranty will be against breakages, malfunctions, non fulfilment of guaranteed performance and breakdowns due to manufacturing defects or defects that may arise due to improper operation of electrical or electronic components of the system but do not include physical damages by the end users.
- f. The above warranty shall take effect from the date on which the system is taken over by the users or beneficiaries.
- g. The successful tenderer shall be liable to make good the loss by replacing the defective product during the

warranty period for the entire system free of cost, failing which authority would deduct the amount from the amount retained by authority as per Payment terms and will be blacklisted.

- h. The warranty will cover all the materials and goods involved in the installation and commissioning of SPV Pumping systems by the successful Bidder under this contract irrespective of the fact whether these have been manufactured by the Successful Bidder or not. The decision in this regard by authority is final and binding on the successful bidder.

The mechanical structures, electrical works including power conditioners/inverters/charge controllers/MPPT units/distribution boards/digital meters/ switch gear / etc. And overall workmanship the SPV power plants /systems must be warranted against any manufacturing / design/installation defects for Warranty

Sd/-

ASSISTANT ADMINISTRATIVE OFFICER (SP)

INSTRUCTIONS FOR ONLINE BID SUBMISSION:

As per the directives of Department of Expenditure, this tender document has been published on the Central Public Procurement Portal (URL: <http://eprocure.gov.in>). The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at:

<https://eprocure.gov.in/eprocure/app>

REGISTRATION:

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “Click here to Enroll”. Enrolment on the CPP Portal is free of charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their userID / password and the password of the DSC / eToken.

SEARCHING FOR TENDER DOCUMENTS:

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective „My Tenders“ folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS:

- 1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- 2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents – including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- 3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF formats. Bid documents may be scanned with 100 dpi with black and white option.
- 4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use “My Space” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF BIDS:

- 1) Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) A standard BoQ format has been provided with the tender document to be filled by all the bidders. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
- 4) The serve time (which is displayed on the bidders’ dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- 5) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by

unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done.

- 6) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 7) Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 8) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS:

- 1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.

Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 1800 233 7315.

For any technical related queries please call the Helpdesk, Mobile Number -

+91 8826246593 Tel: The 24 x 7 Help Desk Number 0120-4200462, 0120-4001002.

E-mail: support-eproc[at]nic[dot]in

Note: Bidders are requested to kindly mention the URL of the Portal and Tender Id in the subject while emailing any issue along with the Contact details.

Sd/-

ASSISTANT ADMINISTRATIVE OFFICER (SP)

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date:

To,

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No: _____

Name of Tender / Work: -

Dear Sir,

1. I / We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:

as per your advertisement, given in the above mentioned website(s).

2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. _____ to _____ (including all documents like annexure(s), schedule(s), etc .,), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/ organisation too have also been taken into consideration, while submitting this acceptance letter.

4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.

5. I / We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking.

6. I / We certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organisation shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract , without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,

(Signature of the Bidder, with Official Seal)