SKN COLLEGE OF AGRICULTURE

(Sri Karan Narendra Agriculture University)

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Dr. M. R. Choudhary
Dean & Faculty Chairman (Ag.)

No.F. ( )//CS/SKNCOA/2025/1257 Date: 16-09-2025

OPEN TENDER NOTICE

Sealed tenders are invited from the reputed firms/OEM for the Supply, Installation testing & Commissioning of Solar power system to operate 5 Hp Water Pump. The tender can be downloaded from state procurement portal Website www.sppp.rajasthan.gov.in on university website www.sknau.ac.in or will be available in working days from **16-09-2025 to 25-09-2025 up to 10.30 AM.** The tender will be accepted up to **25-09-2025 (11.00 AM)** and will be opened on the same day at 11.30 AM by the competent committee at SKN College of Agriculture, Jobner, Jaipur. Bid document can be obtained from this office by depositing bid document fee in cash **Rs. 500** and also downloaded from the university website www.sknau.ac.in & sppp.rajasthan.gov.in (will have to submit DD or banker's cheque of **Rs. 500** in favour of Dean, SKN College of Agriculture, Jobner while submitting bid. **EMD** in the form of DD or banker's cheque will be deposited in favour of the Dean, SKN College of Agriculture, Jobner as per RTPP rules failing which the tender will not be accepted. All the items related to this tender document will by supplied F.O.R. at Horticulture Farm, SKN College of Agriculture, Jobner, Jaipur. The detail information regarding above mentioned tender is available at our office and website www.sknau.ac.in. The undersigned reserve the right to Reject/Accept tender without assigning any reason of thereof.

S.No	Particular	Quantity	Tender Fee	Approx. Amount less than Rs	EMD @ 2% or as applicable
1	Supply, Installation testing, & Commissioning of Solar power system for 5 Hp Water Pump	As per requirement	500/-	Less than Rs7,00,000/-	14000/-

DEAN

Copy for information and necessary action to:

1. The Comptroller, SKNAU, Jobner with request to nominate member on dated **25-09-2025** for completion of tender process.
2. Convener & Members, Tender Committee, SKNCOA, Jobner
3. The Treasury Officer, SKNAU, Jobner
4. Incharge CIMCA, SKNAU, Jobner to upload open tender on University website and sppp.rajasthan.gov.in
5. The DDO/SO, Account Section, SKNCOA, Jobner
6. Guard file

DEAN

Terms and Conditions

1. **Technical and financial bids are to be prepared separately in two envelops.**
2. Important annexures/documents except financial bid should be kept in **Envelope 1** along with tender fee DD if not already paid to this office and earnest money DD.
3. **Envelope 2** should contain only financial bid and it will be opened only when technical bid of the bidder is qualified.
4. If technical & financial bids are not given separately, it will be rejected without assigning any reason.
5. The Bidder has to **mention make and model name** of all the items in the **financial bid.**
6. The rate quoted shall be inclusive of delivery and installation at the Horticulture farm, SKN College of Agriculture, Jobner.
7. Current Authorization letter issued from Manufacturer/Principal Firm whichever is applicable.
8. Delivery and installation within **45 days** after issue date of work order.
9. Earnest money 2% of approximate cost will be deposited by each tenderer as per RTPP rules.
10. Earnest money will be returned to the non-successful bidder after finalization of the tender. Successful bidders will have to deposit 5 % performance security (of order value) that will be returned after satisfactory completion of warranty period of each supplied item.
11. Self-attested copy of GST/PAN/C.S.T. Nos. may be attached with the bid.
12. In case, any dispute arising out of this contract shall be subject to the jurisdiction of Indian laws & Court at Jaipur.
13. No advance payment will be made to the tenderer and the payment will be released by treasury office SKNAU Jobner only after satisfactory report of technical committee regarding completion of work i.e. supply, installation and verification by the purchaser.
14. The tenderer must put his **signature and stamp on every paper** of tender including terms and condition.
15. Lowest price quoted will not qualify for selection of tender but quality and desired standards will also be considered.
16. Tender will not be considered if bidder fails to submit the security deposit and tender fee.
17. The specifications and warranty obligations should be fulfilled as mentioned below.
18. The Dean, SKN College of Agriculture, Jobner reserves the right to accept or reject any or all the tenders either in full or in parts without assigning any reason thereof.
19. **Bidders have to quote their rates in the Proforma given in financial bid, only.**
20. The firm must submit **three years** of turnover certified with CA or GST Return
21. Free Installation and warranty of 3 years of supply of instruments.
22. The firm should enclose last three-years solar panel purchase and installation work order.
23. The prices should be type written clearly in ink against each items. Cutting should be avoided as erroneous and overwriting are not permissible.
24. Any lapse in time may lead to action against the tenderer under RTPP 2012, RTPP 2013 and other rules laid down by Rajasthan Govt. from time to time and the penalty (L.D.) will be charged.
25. The material should adhere to the specification provided in G- Schedule.
26. Incomplete tenders and tenders received late will not be entertained
27. Any other terms & conditions except cited above will be as per RTPP 2012, RTPP 2013, Rule no.68 of General Finance and Account, Raj. Govt. notification dated 19.11.2015 and other guidelines provided by state government from time to time.

28. The firms from Rajasthan state and outside Rajasthan state which are not included in price preference status by General Finance and Audit rules of Rajasthan, while comparing the price quoted the Rajasthan sale tax/VAT will not be included and only central sale tax will be included. Which means the sale tax/VAT will not be included in price quoted by local firms while central sale tax will be included in price quoted by firms which are not in price preference status of Rajasthan Government. Liquidated damage (2.50 to 10 Percent) will be recovered as per Page 4 General finance and audit rules if the material is not supplied within time as per the following.

a. Lapse of one fourth period than the stipulated time – 2.50%

b. Lapse of one fourth periods but not half than the stipulated time – 5.00%

c. Lapse of half to three fourth period than the stipulated time – 7.50%

d. Lapse of more than three fourth period than the stipulated time – 10%

29. The tenderer will have to sign the "Fall clause"(**Annexure IV** attached) stating that he will have to supply the material to other departments, corporations, boards, PSUs on the same minimum quoted rates as to the college till the contract expires.

30. The tenderer shall give an undertaking that his firm has not been black listed (**Annexure** I attached). If it is found otherwise then bid security, performance security will be seized and court case will be registered against him.

31. The product must be certified as applicable.

32. The rates quoted must be Freight on Receipt (FOR) at SKN College of Agriculture, Jobner otherwise installation, cost of packing, forwarding, freight etc. and all other charges be given. No amount other than that is quoted in financial bid will be paid.

33. All taxes and excise duty if any to be charged extra should be mentioned clearly

34. Supporting documents shall be verified with originals during the tender process. Supporting documents may also be sought as proof. Further, verifications of documents, claims, etc., may also be done by department any time even before/during or after finalization of tender bid/process

35. The Bid Security amount of the successful bidder may be adjusted in performance security of the bidder

36. The guidelines for number/figure mistakes in financial bids: The tender committee will rectify the numerical mistakes as per the following rules

37. If there is mistake in multiplying unit price with quantity, the unit price will be considered and

a. corrections will be made in grand total. If committee feels that there is mistake in decimal place of unit price then grand total will be considered & corrections will be made in unit price.

b. If there is mistake in addition and subtraction of various units then unit prices will be considered and corrections will be made in total price.

c. If there is mistake in figures and words then the words will be considered unless there is any mistake in writing the numbers. The figures will be considered as per a) & b) listed above.

38. Any accident/ mishap during the execution of the job will be the responsibility of the agency concerned, which will get the necessary insurance done at their cost.
39. There will be no exception in EMD in the bid. The bidder must submit EMD.
40. Installation, Commissioning and Testing of goods will be carried out completely by the supplier.
41. Bidder to be submitted the supply order in the any govt or public sector Institutions during last 2 years.
42. Supplier/OEM are submitted the customer care (Helpline Number) office and headquarter situated in Jaipur and onsite warranty have to be provided during warranty period of product.
43. The supplied items are expected to have the manufacturer's logo and product details embossed/printed on it.
44. The instrument shall strictly confirm to the specifications with relevant brochure & Photograph with images. The OEM should have proof of atleast 10 installations of users using solar panel .
45. The bidders / OEM must show online demonstration of the quoted system during technical evaluation of the bids, if ask so.
46. The instrument should be approved registered brand, Certificates issued by Trade Mark Registry under Trade Marks Act 1999 (Govt. of India)
47. The OEM should have at least Rs. 20 lakh average Turnover in last three financial years.

Annexure-I

Declaration by the Bidder regarding Qualification

In relation to my/our Bid submitted to ..... for procurement of

..... in response to their Notice Inviting Bid No. .....

Dated..... 1. I/We hereby declare under Section 7 of Rajasthan Transparency in Public Procurement Act, 2012, that:

1. I/We possess the necessary professional, technical, financial and managerial resources and competence required by the Bidding Document issued by the Procuring Entity;
2. I/We have fulfilled my/our obligation to pay such of the taxes payable to the Union and the State Government or any local authority as specified in the bidding document;
3. I/We are not insolvent in receivership, bankrupt or being wound up, not have my/our affairs administered by a court or a judicial officer, not have my/our business activities suspended and not the subject of legal proceedings for any of the foregoing reasons;
4. I/We do not have, and our directors and officers not have, been convicted of any criminal offence related to my/our professional conduct or the making of false statements or misrepresentations as to my/our qualifications to enter into a procurement contract within a period of three years preceding the commencement of this procurement process, or not have been otherwise disqualified pursuant to debarment proceedings;
5. I/We do not have a conflict of interest as specified in the Act, Rules and Bidding Document, which materially affects fair competition;

Date:
Place:

Signature of Bidder

Name:
Designation:

Annexure - II

DECLARATION BY TENDERERS

We hereby declare that we are Bona-fide manufacturer/Authorized whole sellers/Sole distributors/Authorized Dealer Distributor/Sole Selling/Marketing Agent in the Goods/Store/equipment's/item for which we have tendered.

If this declaration is found to be incorrect then without prejudice to any other action that may be taken, our security may be **forfeited** in full and the tender if any to the extent accepted may be cancelled.

Signature of Tenderer with seal

Annexure-III

DECLARATION BY TENDERERS

I/We hereby declare that we are not blacklisted by any Govt. Department/PSU/Company from last 3 years, wherever we have supplied placement work/service unit, for supplying substandard goods/services to these units.

I/We also declare that I/We are not defaulter, insolvent in receivership, bankrupt or being wound up, not have my/our affairs administered by a court or a judicial officer, not have my/our business activities suspended and not the subject of legal proceedings for any of the foregoing reasons.

Signature of Tenderer with seal

Annexure-IV

FALL CLAUSE CERTIFICATE

This is to certify that we have offered the maximum possible discount to you in our Quotation No. _____ dated ____

The prices charged for the stores supplied under Rate Contract should under no event be higher than lowest prices at which the party sells the items of identical description to any other Govt. Organization/ PSU's/ Central Govt,/State Govt. Autonomous bodies/Central/State Universities/Central/State Educational Institutions during the period of contract failing which the "FALL CLAUSE" will be applicable.

In case, if the price charged by our firm is more, purchasing will have the right to recover the excess charged amount from the subsequent/unpaid bill of the supplier.

Seal and Signature of the Tenderer

ANNEXURE - V
FORM No. 1 [See rule 83 of RTPP]

Memorandum of Appeal under the Rajasthan Transparency in Public procurement Act, 2012

Appeal No .....of .....

Before the ..... (First / Second Appellate Authority)

1. Particulars of appellant:
(i) Name of the appellant:
(ii) Official address, if any:
(iii) Residential address:

2. Name and address of the respondent(s):
(i)
(ii)
(iii)

3. Number and date of the order appealed against and name and designation of the officer / authority who passed the order (enclose copy), or a statement of a decision, action or omission of the Procuring Entity in contravention to the provisions of the Act by which the appellant is aggrieved:

4. If the Appellant proposes to be represented by a representative, the name and postal address of the representative:
5. Number of affidavits and documents enclosed with the appeal:
6. Grounds of appeal:

.....
.....
.....(Supported by an affidavit)

7. Prayer:

.....
.....

Place .....
Date .....

Appellant's Signature

ANNEXURE – VI

Annual Turnover Certificate

I/We hereby declare that the annual turnover of our firm is as under.

S. No.	Financial Year	Turnover (In Lakh)
1.	2021-22	
2.	2022-23	
3.	2023-24	
	Total Turn Over	
	Avg. Turn Over	

If this declaration is found to be incorrect then without prejudice to any other action that may be taken, our security may be forfeited in full and the tender if any to the extent accepted may be cancelled.

Signature of bidder with seal

Verified by C.A. with UDIN

Annexure – VII

Affidavit

(on non-judicial stamp paper of 100/-)

I…… S/o …… Aged…… yrs, residing at …… Proprietor/Partner/Director of M/s …… Do hereby solemnly affirm and declare that (a) My/our above noted enterprise M/s …… Has been issued acknowledgement of Entrepreneurial Memorandum Part-II by the District Industries Center…… The acknowledgment No. is …… Dated …… And has been issued for manufacture of following items:

(i)
(ii)
(iii)
(iv)
(v)
(vi)

(b) My/our above noted acknowledgement of Entrepreneurial Memorandum Part-II has not been cancelled or withdrawn by the Industries Department and that the enterprise is regularly manufacturing the above items.

© My/our enterprise is having all the requisite plant and machinery and is fully equipped to manufacture the above noted items.

Signature of proprietor /Director
Authorized Signatory with Rubber
Stamp and date

Verification

I…… S/o ……..Aged …… yrs residing at …….. Proprietor / Partner/ Director of M/s …….. verify and confirm that the contents at (a), (b) and (c) above are true and correct to the best of my knowledge and nothing has been concealed there in. So, help me God.

Deponent

SKN College of Agriculture, Jobner *G-Schedule*

DETAILED SPECIFICATIONS FOR SOLAR PHOTOVOLTAIC WATER PUMPING SYSTEM (5 hp)

The work includes the design, supply, installation, testing, and commissioning of a 5 HP Solar Pumping System for lifting water from a borewell/river/pond source. The complete system should be fully functional and include all required Balance of System (BoS) components.

System Configuration:

Item	Specifications	Quantity
Solar PV Modules	Mono/Polycrystalline, 580-595 Wp, MNRE approved	9 Nos
Module Mounting Structure	Galvanized, manually or automatic tiltable, ground-mounted	1 Set of either
Solar Pump Set	5 HP AC/DC Surface/Submersible Pump (head as per site)	1 Set
Pump Controller/Inverter	MPPT based VFD controller compatible with 5 HP solar input including RMS	1 No
Electrical Cable	Copper cable, 4 sqmm 3-core, weather-resistant	100 mtr
HDPE Pipe	1.5/2/2.5''/2", 6-10 kg/cm² pressure rating	50 Feet (HDPE pipe Size as per Department Requirement)
BOS Items	Earthing, Lightning Arrestor, Conduits, Hardware, Accessories	1 Set
Installation & Commissioning	Complete setup with trial run & training	At Site Location

1. Solar Photovoltaic (SPV) Array

- The vendor has to declare the list of imported components used in the SPV water pumping system.
- Modules supplied with the SPV water pumping systems shall have a certificate as per IS 14286/IEC 61215 specifications or equivalent National or International /Standards. STC performance data supplied with the modules shall not be more than one year old.
- Modules must qualify to IS/IEC 61730 Part I and II for safety qualification testing.
- The minimum module efficiency should be minimum 19 percent and fill factor shall be more than 75 percent.
- Modules must qualify to IS 170210 (Part 1) for the detection of potential-induced degradation - Part 1: Crystalline silicon (Mandatory in case the SPV array Open Circuit voltage is more than 600 V DC)
- The name plate of SPV module shall conform to IS 14286/IEC 61215.
- Module to Module wattage mismatch in the SPV array shall be within ± 3 percent.
- Any array capacity above the minimum array wattage requirement as specified in these specifications for various models of SPV Water Pumping Systems is allowed.

- The SPV modules must be warranted for output wattage, which should not be less than 90% of the rated wattage at the end of 10 years.
- The RFID tag shall be placed inside the glass laminate of the SPV modules.

2. **Pump Set:** The pump and all external parts of the motor used in the submersible pump which are in contact with water, should be of stainless steel of grade 304 or higher as per IS 6911 and IS 3444. The motor pump set shall have ***60 months guarantee*** and therefore, it is essential that the construction of the motor and pump shall be made using parts which have a much higher durability and do not need replacement or corrode for ***at least 60 months*** of operation after installation.
3. Controller shall be integrated with Remote Monitoring System with GSM/GPRS and Geo tagging. GSM/ GPRS Charges are to be included in the Costing till the end the of the Warranty period of the Motor-Pump set. The various parameters should be present on the SPV Pump Controller display/screen such as Pump On/Off status, Array Input DC Voltage, DC/AC output Current & voltage, operating frequency, Latest RMS Latitude, Latest RMS Longitude, Pump Capacity (HP), PV Module

- Capacity (KW), Pump Status, Current Generation (kW), Today Solar Generation (kWh), Cumulative Solar Generation (kWh), Today Runs Hours (Hrs.), Cumulative Pump Run Hours (Hrs.), Cumulative Water Discharged (Liters), Total Water Discharged (Liters), Peak Power (kW) supplied by the controller to Motor-Pump Set.

4. **Protections:** The system should be provided with all necessary protections like earthing, Lightning, and Surge Protection etc., as described below:

a. Earthing and Lightning Protection

- The Earthing shall be done in accordance with the IS 3043 including its amendments and updated versions.
- The Earthing system should be designed in such a way that it should be able to restrict the potential of each conductor according to the level of insulation applied and magnitude of the current conducted through human body should be less than the value that can cause ventricular fibrillation of heart.
- Earth connections shall be done in such a way that they are visible for inspection and all the earth electrodes can easily be tested at any point of time.
- It is recommended to keep the value of resistance of earth electrode less than 5 ohms.
- All the materials, fittings etc. used for doing earthing shall conform to the Indian standard, wherever exists.
- The actual value of soil resistivity should be considered while designing the earthing system at the site and for reference, selection criteria of the site, for any type of soil treatment to improve earth electrode resistance, etc., the IS 3043 shall be referred.
- The electrode material should be selected according to the corrosivity of the soil in which it is used, for the relation between resistivity and corrosivity of the soil and method to safeguard the conductor against excessive corrosion, the IS 3043 shall be referred.

- It is recommended for selection of type and installation of the earth electrode, the provisions of the IS 3043 should be considered. However, the pipe or rod-type earth electrode is preferable.
- In case of the two-earth electrode or more, the separation among them should be twice the length of the electrode driven in the ground. Except in special conditions (for e.g.- where the soil is hard to dig out), a number of electrodes in parallel are to be preferred over a single long electrode.
- The provisions given in the IS 3043 should be considered, while selecting or connecting the earthing/protective/grounding conductor from the components to the earth pit.
- Separate earthing conductor shall be provided for the controller, motor-pump set and SPV array etc., for its connection to the earthing pit and it should be continuous in nature for electrical conductivity. However, even for the earthing of light current equipment (for example, high voltage testing equipment), the cross-sectional area of the earthing lead shall not be less than 6 mm^2.
- For the maintenance of the earth electrode and measurement of the Earth electrode resistance the provisions of IS 3043 shall be referred.
- Motor shall have suitable provision for earthing to facilitate earthing of the motor as per IS 3043 at the time of installation. In case GI pipes are used for the purpose of earthing the motor, an earthing connection may be made to the discharge pipe clamps. However, in case of HDPE/uPVC column pipes, a separate metallic cable from the motor to the control panel shall be provided for earthing purpose, and if a four-core cable is used, then the fourth core that is not connected to the terminals can be used for earthing.
- Lightning protection shall be provided as per IEC 62305 and IEC 63227 standards including its amendments and updated versions.
- An external lightning Rod, of height sufficient to meet the requirement of Lightning Protection System (LPS) designed to comply with the class III or higher (Class-I / Class-II), based on the site requirement including the area-specific lightning activity, shall be installed.
- Arrangement and positioning of the separate air-termination systems (external lightning rod) can be determined using different methods given in the IEC 62305-3. While determining the position following points are to be considered such as: -
  a. The structure to be protected is fully located within the protected volume provided by the air-termination system.
  b. There should be a separation distance between the air-termination system and SPV power supply system to prevent dangerous sparking against parts of the SPV power supply system in case of direct lightning. The separation distances determined in accordance with IEC 62305-3 & IEC 63227 shall preferably be maintained.
  c. The possibility of the SPV modules being shadowed by air-termination systems shall be taken into account and distance from the SPV modules can be calculated using the IEC 63227.

- A separate earth electrode is required for the dispersion of the lightning current into the ground with suitably low value of the earthing resistance i.e., less than 5 ohm and the minimum length (l1) of vertical earth electrodes for lightning protection level III or higher shall be determined according to the IEC 62305-3.
- The cross-section of the metal sub-structures used for the connection of the lightning arrestor to the earth electrode should be no less than 16 mm^2 Cu or 25 mm^2 Al or GI of equivalent current carrying capacity should be used, which will also depend upon the class of the Lightning protection system.
- The earth pits given with the SWPS {i.e., Earth pit(s) for the BoS system (other than LA) and Earth Pit for LA} should be made equipotentialy bonded to each other.

b. Surge Protection Device

- For SPD's IEC 63227 and its updated versions or amendments should be followed.
- At the DC Input side of the controller, it should have protection from an External Surge
- Protection Device of Type-2 or higher (i.e. Type-1) in accordance with the IEC 61643-31.
- The rated voltage of SPD's on the DC side, depends on the type of protective circuit and the magnitude of the maximum operating voltage of the SPV modules.

5. Remote Monitoring System (RMS)

The Remote Monitoring System shall be capable of providing and handling the following:

a. Solar System Performance: DC Voltage, DC current, AC output Current, Power, Drive frequency, Energy, etc.
b. Pump Performance: Running Hours, Water Discharge (Output), etc.
c. RMS Performance: % of Device Connectivity, % of Data Availability, etc.
d. Geo Location: Real time latitude and longitude should be captured with an accuracy of less than 10 m horizontal. This is required to ensure that system is not moved from its original location.
e. Events and Notifications: Faults related to Pump Operation, Solar generation, Controller/Drive faults like overload, dry run, short circuit, etc.
f. Consumer Management: Name, Agriculture details, Service No. Contact Details, etc.
g. Asset Management: Ratings, Serial Number, Make, Model Number of Pump, SPV Module and Controller, Geo Location, IMEI number (of communication module) and ICCID (of SIM).
h. Complaint and Ticket Management: Complaint management system is a part of centralized monitoring software platform.
i. Consumer Mobile Application: Generation, Running Hours, Water Discharge, Complaint logging, etc.

Communication Architecture of the RMS should be as mentioned below:

a. Communication Connectivity:

i. **Pump Controller Connectivity**: Communication between RMS and Pump Controller should be on UART/RS485 MODBUS RTU protocol to ensure interoperability irrespective of make and manufacturer.
ii. **Remote Connectivity**: RMS of SWPS should use GSM/GPRS/2G/3G/4G cellular connectivity.

iii. **Local Connectivity**: Ethernet/Bluetooth/Wi-Fi connectivity to configure parameters, notifications, communication interval, set points etc. or to retrieve locally stored data

iv. **Sensor Connectivity**: RMS should have provision for at least two Analog and Digital inputs with 0.1% accuracy to address the requirement of local sensors connectivity if required by SIA/Consumer for applications such as irradiation, flow meter for water discharge, moisture sensor for micro-irrigation, etc.

As mentioned in specifications, Analog/ digital sensor inputs will be required for integration of flow meter for water discharge, moisture sensor for micro irrigation, level sensor for overhead tank water storage etc. Only provision for Analog and digital inputs with 0.1% accuracy of Full-Scale Range is required. Sensors will not be in scope of bidder.

v. RMS should have provision to give various modes of operations which are as follows:

- Remote Mode: - Pump can be made ON/Off using the Mobile App or in case, farmer do not have a smart phone, farmer shall be able to on-off pump through SMS/missed call.
- Auto Mode: - Pump can ON/Off automatically using the sensor data which are installed in the field by the beneficiary. (Cost of sensors will be worn by the beneficiary)
- Timer Mode: - Pump controller shall operate pump as per configured schedule using mobile application i.e., daily start time and running hours of pump.
- Manual Mode: - Pump can be made to run into manual mode from field.

To save ground water, provision for remote operation is required so that farmer can switch on and off remotely.

b. Communication Modes

i. Push Data on Event/Notification: such as pump on, pump off, protection operated, etc.

ii. Push Data Periodically: important parameters of solar pump (as mentioned above) should be pushed to central server on a configurable interval. Default interval should be of 15 minutes. However, if required, it should be possible to configure the periodic interval in multiples of 1 minute starting from 1 minute and up to 15 minutes. Further, in case of any abnormalities or events, RMS should push on event immediately.

iii. Command on Demand: It should be possible to send commands via GSM or GPRS to RMS either to control pump operations or to update configuration.

c. Communication Protocol: RMS should provide data on MQTT protocol to establish communication with thousands of systems.

d. Security:

i. Communication between RMS and Server should be secured and encrypted using TLS/SSL/X 509 certificate etc.

ii. As a part of IoT protocol, Authentication and Authorization should be implemented using a token/password mechanism.

e. **Message Format**: RMS should provide data in a JSON message format as per requirement of implementing agency.

f. **Data Storage**: In case of unavailability of cellular network, RMS should store data locally and on availability of network it should push data to the central Server. Local data storage should be possible for one year in case of unavailability of a cellular network. RMUs should have configuration updates over the Air of multiple parameters such as IP, APN, Data logging Interval, Set Points etc. is essential. Software updating should be possible with 2G and even without the presence of SD card. Software updating process and/or failure to update software shouldn't disrupt pumping operations.

RMS should be connected to the Solar Energy Data Management Platform of the implementing Agency.

g. RMUs should have configuration updates over the Air of multiple parameters such as IP, APN, Data logging Interval, Set Points etc. is essential. Software to be updated through "Programming over the air" on SIA server. Software updating process and/or failure to update software shouldn't disrupt pumping operations. Manufacturer should consider Programming Over the Air (POTA) instead of Firmware Over the Air (FOTA) to update configurable parameters such as server IP, URL, Port, APN, Periodic Interval etc

h. Bid Specific MAF is required

i. The OEM must be in the top 5 IDC rated IT equipment manufacturer in India

j. Average turnover of Rs 20.00 lacs in the last 3 financial year.

k. 3 Equal or above value workorder of similar item in govt institute in last 3 years

SKN COLLEGE OF AGRICULTURE
(S.K.N. Agriculture University-Jobner) Jobner

Supply, Installation testing & Commissioning of Solar power system to operate 5 Hp Water Pump

Price Bid Format (BoQ):

S.NO	Description of Goods	No. & Description of Package	Specification	Make/ Model of item/ goods offered	Total Amount (INR) without GST	GST %	Total amount with GST (Rs.)
1	580 - 595 Wp Solar Panel	09 Nos.	Supply, Installation testing & Commissioning of Solar power system to operate 5 Hp Water Pump as per given specification				
2 a	Module Mounting Structure Manual tiltable	01 set					
2 b	Module Mounting Structure Automatic Tiltable						
3	5 HP Motor Pump with Controller	01 set					
4	Submersible Cable	01 lot					
5	HDPE Pipe 1.5''/2"/2.5", 6–10 kg/cm²	50 ft					
6	Installation and Commissioning	01 job					
7	Balance of System (BOS) Components (LAs, Earthing, etc.)	01 lot					

Name of Firm	
Address of the Firm with mobile No. and Email	
Bank Details	Bank & Branch: Account No.: IFSC Code: Mobile No.

Signature of Tenderer with seal

Annexure VIII

Information to be written compulsorily on the envelope

Name of Department: Central Store, SKN COA, Jobner

Reference No. of Tender:

Name of PI & Unit: Dr. M.R. Choudhary, RKVY-30

Title of Tender: Supply, Installation testing & Commissioning of Solar power system to operate 5 Hp Water Pump

Date of Opening Tender: 25-09-2025