

NOTICE INVITING TENDER

NIT No.1 OF 2023-24/CE

Dated 11th September, 2023

The Chief Engineer, Irrigation and Water Resources Department, Mizoram, Aizawl on behalf of the Governor of Mizoram invites interested and eligible bidders for **Selection of Firm with their Unit Cost** of the subsequent work under Single-stage Two-Envelope Bidding System. For details about the Invitation for Bid (IFB), please refer to the details given in Tender Document.

NIT No.	Item of Work	Pump Capacity	Unit	Qty.	Unit Benchmark Cost (Exclusive of GST) (in Rs.)	Earnest Money (in Rs.)	Cost of Tender Form (in Rs.)	Time of Completion (Working Month)
1	2	3	4	5	6	7	8	9
01 of 2023-24/CE	Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems (Surface Pump/ Submersible Pump) in the State of Mizoram including complete system warranty and its repair and maintenance for 5 years under MNRE PM-KUSUM scheme Component-B.	0.5 HP (Submersible)	Nos.	415	75,390.92	20,000.00	1,500.00	8 Working Months
		1 HP (Submersible)		180	1,15,003.00			
		2 HP (Submersible)		20	1,39,124.00			
		1 HP (Surface)		705	1,15,003.00			
		2 HP (Surface)		380	1,39,124.00			
TOTAL				1700				

Detailed tender documents can be obtained from the Office of the Chief Engineer, on payment of required amount as mentioned in the terms and conditions during office hours on all working days from 13th September, 2023 to 25th September, 2023. The same may also be downloaded from the department website: <http://www.irrigation.mizoram.gov.in> on payment of required amount as mentioned at the time of tender document submission. Any amendment(s)/ corrigendum/ clarification(s) with respect to this tender shall be updated on the department website and bidders should keep themselves updated by regularly visiting the department website. Sealed tenders should be submitted in the tender box placed at the room of Sr. Executive Engineer (P), Office of the Chief Engineer, Aizawl on or before 25th September, 2023 up to **12:00 Hours** and the same will be opened on 25th September, 2023 at **13:00 Hours**.

(LALROTLUANGA)

Chief Engineer

Irrigation & Water Resources Department

Mizoram, Aizawl

Memo No.: P.13011/2/2022-I&WR/CE

Dated Aizawl the 11th September, 2023

Copy to:

1. P.S. Hon'ble Minister, Irrigation & Water resourced Department, Mizoram for information.
2. The Secretary to the Government of Mizoram, IWRD for information.
3. The Director, Information and Public Relation Department, Govt. of Mizoram for information and a request to publish the tender notice as attached herewith in two separate local newspaper for three consecutive days.
4. The website manager, IWRD for information and necessary action.
5. Concerned file.
6. Office notice board.



Chief Engineer

Irrigation & Water Resources Department

Mizoram, Aizawl

NOTICE INVITING TENDER

(NIT no. 1 of 2023-24/CE)

The Chief Engineer, IWRD on behalf of the Governor of Mizoram invites Single Stage Two Envelope Bidding system for **Selection of Firm with their Unit Cost** for “Supply, Installation, Commissioning and Maintenance of – Off Grid Solar Photovoltaic water pumping system (0.50 – 2 HP) (Surface & Submersible pump)” under PMKUSUM : Component-B. Details will be available from 13th Sept., 2023 in the office of the undersigned on payment of Rs. 1,500.00 and the same may also be downloaded from the department website: <http://www.irrigation.mizoram.gov.in> on payment of required amount as mentioned at the time of tender document submission. Last date for submission of Tender will be 25th Sept., 2023 up to 12:00 Hours.



(LALROTLUANGA)

Chief Engineer,

Irrigation & Water Resources Department

Mizoram: Aizawl

**OFFICE OF THE CHIEF ENGINEER
IRRIGATION & WATER RESOURCES DEPARTMENT
MIZORAM, AIZAWL**



IWRD

**TENDER DOCUMENTS
TENDER No. 1 of 2023-24/CE**

Name of Work:

**Supply, Installation and Commissioning of Off-Grid
Solar Photovoltaic Water Pumping Systems Complete**

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CHECK LIST

Sl. No.	Description	Attached	Not Attached
1	Receipt of the Tender Document Fee.		
2	Earnest Money.		
3	The original document duly signed & sealed on each page as a confirmation of acceptance of Term & Condition (T&C).		
4	Proof of Eligibility and Experience.		
5	Copy of Registration of GST.		
6	Copy of Pan Card/HTPC Certificate/Court Fee Stamp (for Non-Tribal).		
7	Details of similar work done in the last five years along with the copies of the orders and completion certificates from the customers.		
8	Annual turnover for the last three years as certified by a chartered Accountant.		

(Sign and Seal of the Tenderer:

Name:

GOVERNMENT OF MIZORAM
OFFICE OF THE CHIEF ENGINEER
IRRIGATION AND WATER RESOURCES DEPARTMENT
MIZORAM:AIZAWL

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The Chief Engineer, Irrigation and Water Resources Department, Mizoram, Aizawl on behalf of the Governor of Mizoram invites interested and eligible bidders for **Selection of Firm with their Unit Cost** of the subsequent work under Single-stage Two-Envelope Bidding Process. For details about the Invitation for Bid (IFB), please refer to the details given in Tender Document.

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TOTAL				1700				

Detailed tender documents can be obtained from the Office of the Chief Engineer, on payment of required amount as mentioned in the terms and conditions during office hours on all working days from 13th September, 2023 to 25th September, 2023. The same may also be downloaded from the department website: <http://www.irrigation.mizoram.gov.in> on payment of required amount as mentioned at the time of tender document submission. Any amendment(s)/ corrigendum/ clarification(s) with respect to this tender shall be updated on the department website and bidders should keep themselves updated by regularly visiting the department website. Sealed tenders should be submitted in the tender box placed at the room of Sr. Executive Engineer (P), Office of the Chief Engineer, Aizawl on or before 25th September, 2023 up to **12:00 Hours** and the same will be opened on 25th September, 2023 at **13:00 Hours**.



(LALROTLUANGA)

Chief Engineer

Irrigation & Water Resources Department
Mizoram, Aizawl

TERMS & CONDITIONS:

- 1) Before tendering, the contractor shall inspect the site to fully acquaint himself about the condition in regard to accessibility site nature and extend of ground working conditions including stocking of materials, installation of tools and plants etc. conditions affecting accommodation and movement of labour etc. required for the satisfactory execution of the work contract. No claim whatsoever shall be entertained by the Department in any circumstances.
- 2) Tender in sealed cover shall be addressed to the Chief Engineer, Irrigation and Water Resources Department, Mizoram, Aizawl and should clearly typed in computer format the name and address of the bidder, Notice Inviting Tender No., and Name of Work. Sealed Tenders should be submitted on or before the 25th September, 2023 till 12:00 Hour to Sr. Executive Engineer (P) Office and the same will be opened on the 25th September, 2023 at 13:00 Hour in Committee Room, Irrigation and Water Resources Department, Mizoram, Aizawl.
- 3) Tender documents, will be issued from the office, during the office hours specified on payment of Rs. 1500.00/- (Rupees Fifteen hundred) only.
- 4) Tenderer must furnish material Test Certificates from MNRE/BIS/NISE approved laboratory with each batch of supply.
- 5) The Tenderer must attach Proof of Eligibility and Experience in regard to Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning Complete. Experience in the North East Region will be given preference.
- 6) Details of similar work done in the last five years along with copies of the orders and completion certificates from the customers must be attached.
- 7) Earnest money in the form of Bankers' Cheque/Fixed Deposit in original from any branch of Nationalized Bank in India (preferably bank in Aizawl) duly pledged in favour of the Chief Engineer, Irrigation and Water Resources Department, Mizoram, Aizawl must accompany the Tender. Earnest Money thus deposited by unsuccessful bidders will be released on request in writing only after selection of the successful Bidders.
- 8) The Tenderer must submit all the Schedules and Annexures.
- 9) Unsealed Tenders shall be summarily rejected.
- 10) Canvassing directly or indirectly in connection with the Tender is strictly prohibited and the tender submitted by the contractor, who resort to canvassing will be liable to be rejected.
- 11) Rate must be quoted both in figures and in words.
- 12) All corrections in the tender must be dated initialled by the tenderer before submission of the tender, without which the tender will be rejected.
- 13) For Tribal Tenderer, Valid House Tax Payee Certificate (Original) and Tribal Certificate (if xerox, it should be attested by competent authority) should also be attached to the tender documents. For Non-Tribal tenderer a non-refundable court fee stamp worth Rs. 7.50 (Rupees Seven and fifty Paise) should be attached.

- 14) Work will have to be started within 30 (thirty) days from the date of issuance of formal work order failing which it will incite termination of work order automatically.
- 15) The time allowed for carrying out the work will be **8 working months** from the date of issuance of work order and should be completed in all respect within the Scheduled time.
- 16) The tenderer or his representative may be present at the time of opening of the tender.
- 17) The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case responsible or liable for reimbursement of such expenses regardless of the contract or outcome of the bidding process.
- 18) The Bidder is expected to examine carefully all instructions, conditions of contract, contract date, forms, terms, technical specifications, bill of quantities, forms, Annexures in the Bid Documents. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk. Bids which are not substantially responsive to the requirements of the Bid Documents shall be rejected.
- 19) The rates quoted against each item by bidder should be up to 2(two) decimal points only. If the bidder quote rate against any/each item beyond 2(two) decimal, only up to 2 (two) decimal points will be considered.
- 20) The Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities along with total bid price Items for which no rate or price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities.
- 21) All pages including blank pages and supporting documents must be marked with self-attestation.
- 22) The contract shall be for the whole works/package/unit based on priced Bill of Quantities submitted by the Bidder.
- 23) The Bidder should quote rates inclusive of all taxes and all other charges.
- 24) The unit rates shall be quoted by the bidder entirely in Indian Rupees.
- 25) Payments shall be made after commissioning of the Solar Water Pump System complete (not less than 30 units).
- 26) Extension of Time shall not be allowed except in Special circumstances/Force Majeure conditions with approval from competent Authority.
- 27) The milestone of the work progress shall be as follows:
 - a) First three months: 20% of work order.
 - b) Next three months: 60% of work order.
 - c) Last two months: 100% of work order.
- 28) In case of failure to execute the work within the milestone or failure to make proportionate progress (except in case of approval of Extension of Time from competent Authority), the balance work shall be withdrawn and no claim what so ever shall be entertained. In such a case, the security deposit shall be forfeited followed by imposition of penalty as fixed by the Employer and may lead to suspension/cancellation of registration.

- 29) *Bill of Quantity*: The quantity of works/materials given in the price schedule is given on broad estimation basis for each point of the Supply, Installation, Commissioning and Maintenance of Solar Water Pump System Complete. The actual work may involve minor variations at the time of execution as per the site condition. The Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning of Solar Water Pump System Complete at each point shall be considered as one complete package and any minor variation of work if required for proper installation of Solar Water Pump System shall be done under the same bid/allotted price, so as to yield the desired output in all respect. No claim shall be entertained for such minor/extra works items.
- 30) After Commissioning of works (not less than 30 units), bill will be submitted to the Chief Engineer, Irrigation and Water Resources Department, Mizoram, Aizawl through the concerned division for processing payment of 90% of the contract value and the remaining 10% will be withheld for security deposit (for AMC).
- 31) Annual Maintenance charges shall be released annually in equal percentages, after one year of completion for a period of five years.
- 32) Price variation on any parts of the system will not be entertained from the commencement till completion of work. The prices shall remained fixed as per mentioned by the contractor on the tender documents/agreement.
- 33) All specifications of Solar Panel and Pumps should be conformed with MNRE Guidelines.
- 34) The undersigned on behalf of Governor of Mizoram reserves the right to reject any or the entire tender without assigning any reasons thereof and he does not bind himself for selection of the lowest tender.

Dated Aizawl the 11th September, 2023.



(LALROTLUANGA)

Chief Engineer

Irrigation & Water Resources Department

Mizoram, Aizawl

UNDERTAKING OF THE TENDERER

I/We have read carefully and examined the Notice Inviting Tender, Schedule, General Rules and terms and conditions of the contract, Special Conditions, Schedule of Rates and other documents and Rules referred to in the tender document for the **'Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems (Surface Pump/ Submersible Pump) in the State of Mizoram including complete system warranty and its repair and maintenance for 5 years under MNRE PM-KUSUM scheme Component-B'**. I/We hereby tender my rates for the execution of the work for THE CHIEF ENGINEER, IWRD as specified within the time stipulated in the schedule in accordance with all aspects with the specifications, designs, drawings and instructions with such conditions as far as applicable.

I/We agree to keep the tender open for 365 days from the date of submission thereof and not to make any modifications in its terms and conditions. A sum of Rs. _____ (in words- _____) is hereby forwarded as earnest money in the form of crossed demand draft payable to THE CHIEF ENGINEER, IWRD at Aizawl. If I/We fail to commence or complete the work ordered in specified time I/We agree that THE CHIEF ENGINEER, IWRD shall, without prejudice to any other right or remedy, be at liberty to forfeit the said Earnest Money absolutely. The said Earnest Money shall be retained by THE CHIEF ENGINEER, IWRD towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be required by THE CHIEF ENGINEER, IWRD.

I/We hereby declare that I/We shall treat the tender documents, specifications and other records connected with the work 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 prejudicial to the safety of THE CHIEF ENGINEER, IWRD Aizawl/the State Govt.

I/We shall abide to all the laws and shall be responsible for making payments of all the taxes, duties, levies and other Govt. dues etc. to the appropriate Govt. Departments.

Our GST registration no. is _____, Income Tax Act/ HTPC No. is _____ and PAN No. is _____ under the 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 THE CHIEF ENGINEER, IWRD to recover the taxes due from us and deposit the same with the appropriate authorities on their demand.

Dated:

Signature

(_____)

Name of Tenderer with Seal

Detailed Technical Specifications/Configurations For Solar Pump System

Solar Panel

Specification/Technical Aspects of Solar Panel:

SI. No.	Specifications	0.5 Hp	1 Hp	2 Hp
1	Material	Poly-Crystalline	Poly-Crystalline	Poly-Crystalline
2	Efficiency	>19%	>19%	>19%
3	Fill Factor	>75%	>75%	>75%
4	Total Wp Rating	>600 Wp	>1200 Wp	>2.2 kWp
5	No. of Solar Plate	2 nos. (>300 each at STC)	4 nos. (>300 each at STC)	6 nos. (>300 each at STC)
6	Frame Material	Anodized Aluminium Framed	Anodized Aluminium Framed	Anodized Aluminium Framed
7	Warranty	5 Years	5 Years	5 Years

It must conform to the **IS14286/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. 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 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 and 80% of the rated wattage at the end of 25 years.
- Solar module manufacturers should be **BIS** approved, presently **TIER I** and should be in **TIER I** for consecutive 6 quarters minimum.
- Modules should be **ALMM** listed and **MNRE** approved.

The name plate shall conform the **IS 14286/IEC 61215** and at the body of each solar module the following detail are to be provided-

- Rated maximum Power
- Tolerance
- Open Circuit Voltage (Voc)
- Short Circuit Current (Isc)
- Voltage at Pmax
- Current at Pmax
- Operating Temperature
- Weight (Kg)
- Dimensions (mm)
- Module Efficiency
- Maximum Power Temperature Co-efficient (% per degree C)

The Solar Panels should have an RF Identification tag (RFID) fixed inside of module lamination. The module laminate but must be able to withstand harsh environmental conditions and must indicate:

- Name of the Manufacturer or Distinctive Logo

- Model Number
- Serial Number
- Year of manufacture.

Solar Pump Set:

1. Surface Solar Pump

The surface pump set should conform to BIS specifications and satisfy the following parameters:

Sl. No.	Specifications	1 Hp	2 Hp
1	Type	AC/DC (Self Priming)	AC/DC (Self Priming)
2	Flow Rate	>1000 litre/hour.	>2000 litre/hour.
3	Dynamic Pump Head	>25 m	>30 m
4	Efficiency	>60%	>60%
5	Operating Power Supply	220+10% V	220+10% V
6	Operating Frequency	50 Hz	50 Hz
7	Phase	Single Phase	Single Phase
8	Motor RPM	>2000 RPM	>2500 RPM
9	Discharge Head Diameter	>25 mm	>25 mm
10	Warranty	5 Years	5 Years

It must conform to **IS 11346:2002** and it is essential that the construction of the motor and pump should be made using parts which have a much higher durability and do not need replacement or corrode for at least 5 years of operation after installation.

2. Submersible Solar Pump

The submersible pump set should conform to BIS specifications and satisfy the following parameters:

Sl. No.	Specifications	0.5 Hp	1 Hp	2 Hp
1	Type	AC/DC (Water filled)	AC/DC (Water filled)	AC/DC (Water Filled)
2	Flow Rate	>10 litre/min.	>20 litre/min.	>30 litre/min.
3	Dynamic Pump Head	>10 m	>50 m	>50 m
4	Efficiency	>60%	>60%	>60%
5	Operating Power Supply	240+10% V	240+10% V	240+10% V
6	Operating Frequency	50 Hz	50 Hz	50 Hz
7	Phase	Single Phase	Single Phase	Single Phase
8	Motor RPM	>1500 RPM	>2000 RPM	>2500 RPM
9	Discharge Head Diameter	>32 mm	>32 mm	>32 mm
10	Warranty	5 Years	5 Years	5 Years

It must conform to **IS 8034: 2002**. All external parts of motor used in submersible pump which are in contact with water should be of stainless steel of grade 304 or higher, therefore, it is essential that the construction of the motor and pump should be made using parts which have a much higher durability and do not need replacement or corrode for at least 5 years of operation after installation.

Mounting Structures and Foundation:

- The bidder has to design, provide details, and propose to deploy the most suited mounting structures and manual tracking systems with matching to MNRE standard. The design details and drawings is to be approved by the Chief Engineer, IWRD before executing in the site.

- The PV modules will have to be mounted on metallic structures of sufficient strength, which can withstand load of modules and high wind velocities up to 150 km per hour.
- The raw material used and the process for manufacturing of module mounting structure including welding of joints should conform to applicable **IS 822**.
- The support structure used in the pumping system shall be of hot dip galvanized iron (GI) according to **IS 4759**. Zinc content in working area of the hot dip galvanizing bath should not be less than 99.5% by mass.
- Must have dual axis manual tracking arrangement which can withstand the load of modules.
- The G.I. structures for mounting the Solar panels should be so designed that these face the sun optimally.
- All nuts and bolts should be of BIS specification and should be stainless steel 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.
- Factory hot dip galvanized (80 micron) structures of structure made of highest branded materials.
- The general hardware for structure fitment should be either **SS 304 or 8.8 grade**.
- All materials should be duly IS marked.

Pump Control and Inverter:

Salient features of controller should be as follows:

- It should be suitable for the used pump.
- Phase:
 - 1) **Surface Pump:** Single phase, 220+10% V, 50 Hz.
 - 2) **Submersible Pump:** Single phase, 240+10% V, 50 Hz.
- Must have DC and AC input.
- Must be suitable for both DC and AC input.
- With built in MPPT.
- The controller must come with RMS having IP65 protection.
- The 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 of the warranty period of the motor pump set.
- Controller should have LED/LCD auto-scrolling feature that displays the real time parameters like output frequency, voltage, kW and output current.
- Should have **IP (65)** protection rated with built in full protection and diagnostic mechanism.
- **Controller should have built in dry run protection, built in surge protection, reverse polarity protection and short circuit protection.**
- A good reliable DC Circuit Breaker as per **IS/IEC 60947-2** suitable for switching DC power ON and OFF shall be provided in the SPV Controller.
- All cables used shall be as per **IS 694**. Selection of cable shall be as per **IS 14536**.
- Should be UL&MNRE approved with overall efficiency > 96%.
- Should have valid test certificate as per **IEC 61683:1999, IEC 60068 - 2-1, IEC 60068-2-2, IEC 60068-2-14, IEC 60068-2-30**.
- Must have a lock and key mechanism.
- Starter make: As per with pump manufacturer.
- Pump test report from **NABL ACCREDITED TEST LAB** is a must and it should be as per **MNRE Standard**.

Earthing Protection:

Each array of the PV structure should be grounded properly with a lightning arrester. Provision should be kept for shorting and grounding of the PV array at the time of maintenance work. All metal

casing/shielding of the plant should be thoroughly grounded in accordance with Indian Electricity Act/IE rules as amended up to date. The pump, inverter and solar panels should be grounded separately. Earthing of the motor should be done as per **IS 9283** in accordance with the relevant provision of **IS 3043**.

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-1 / 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:

- 1) The structure to be protected is fully located within the protected volume provided by the air-termination system.
- 2) 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.
- 3) 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

The earthing components should satisfy the following parameters:

- The grounding rod should be 2 m long as per **IS 2309: 1989**.
- The lightning arrester should be galvanized copper (**IS 3070-3**), 3 ft. long and with earth plate.
- The earthing wire should be 6 sq. mm. as per **IS 2309:1989**.
- **Surge Protection Device**
 - 1) For SPDs IEC 63227 and its updated versions or amendments should be followed.
 - 2) 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.
 - 3) The rated voltage of SPDS on the DC side, depends on the type of protective circuit and the magnitude of the maximum operating voltage of the SPV modules.

Electrical Wire/Cable:

All cables should be of copper as per **IS 694:2010** and should be as per requirement. All connectors should be properly made through suitable lug/terminal crimped with use of suitable proper cable glands. For normal configuration the minimum suggested size of cables are:

Module to module-

- 4 sq. mm. single core copper wires as per **IS 7098**.

Pump to Controller-

- It should be 3 core flexible copper wire of 2.5 sq. mm.
- It should be suitable for the submersible pump and must come with necessary waterproof joints.

Pipes:

- The delivery pipe shall be of HDPE or uPVC column pipes of appropriate size in diameter with working pressure as per pipe size of length 3 m as specified in **IS 4895:2000** and fitting should be as **IS 13593:1992**.

MC4:

- The MC4 should be weather tight sealed (IP67 Protection)
- Must come in Male-Female pair.
- The contact material should be copper, tin plated.

The MC4 cable:

- Material should be copper tin plated as per TUV standards.
- Thickness 6 sq. mm., Max current Capacity 60A
- Separate colour for -ve and +ve connection.

Pump and Control Box Cover:

- The solar water pump and controller/control box must be placed above the ground and suitable cover must be provided so as to provide protection from unfavourable weather conditions, pest control and for safety measures.

PCC Foundation (for Surface Solar Pump):

- The solar pump should be mounted and bolted on the laying of PCC. The PCC foundation for the placing of solar pump should be of tremix of 75 mm and 100 mm thickness. The foundation structure shall be preferably 1:1.5:3 PCC constructions or any other combination based on the local site condition requirement for which design details shall be submitted and approved before start of work. The contractor must provide the detailed design and calculations of the foundation. Successful Bidder shall also plan for transport and storage of materials at site. The PCC foundation shall have to be designed on the basis of the weight of the structure with module and minimum wind speed of the site, i.e. 180 km/hour and relevant IS ie. IS 6403/456/4091/875 should be referred for foundation design.

Remote Monitoring System

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

- 1) **Solar System Performance:** DC Voltage, DC current, AC output Current, Power, Drive frequency, Energy, etc.
- 2) **Pump Performance:** Running Hours, Water Discharge (Output), etc.
- 3) **RMS Performance:** % of Device Connectivity, % of Data Availability, etc.
- 4) **Geo Location:** Real time latitude and longitude should be captured with an accuracy of less than 10m horizontal. This is required to ensure that system is not moved from its original location.
- 5) **Events and Notifications:** Faults related to Pump Operation, Solar generation, Controller/Drive faults like overload, dry run, short circuit, etc.
- 6) **Consumer Management:** Name, Agriculture details, Service No. Contact Details, etc.
- 7) **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).
- 8) **Complaint and Ticket Management:** Complaint management system is a part of centralized monitoring software platform.
- 9) **Consumer Mobile Application:** Generation, Running Hours, Water Discharge, Complaint logging, etc.

Communication Architecture of the RMS should be as mentioned below:

- **Communication Connectivity:**
 - 1) **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.

- 2) **Remote Connectivity:** RMS of SWPS should use GSM/GPRS/2G/3G/4G cellular connectivity.
 - 3) **Local Connectivity:** Ethernet/Bluetooth/Wi-Fi connectivity to configure parameters, notifications, communication interval, set points etc. or to retrieve locally stored data
 - 4) **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 and 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.
- **RMS should have provision to give various modes of operations which are as follows:**
 - 1) **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.
 - 2) **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)
 - 3) **Timer Mode:** Pump controller shall operate pump as per configured schedule using mobile application i.e., daily start time and running hours of pump.
 - 4) **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.
 - **Communication Modes:**
 - 1) **Push Data on Event/Notification:** Such as pump on, pump off, protection operated, etc.
 - 2) **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.
 - 3) **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.
 - 4) **Communication Protocol:** RMS should provide data on MQTT protocol to establish communication with thousands of system.
 - 5) **Security:**
 - a) Communication between RMS and Server should be secured and encrypted using TLS/SSL/X.509 certificate etc.
 - b) As a part of IoT protocol, Authentication and Authorization should be implemented using a token/password mechanism e.
 - 6) **Message Format:** RMS should provide data in a JSON message format as per requirement of implementing agency.
 - 7) **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.

- 8) 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.

Operation and Maintenance Manual:

An Operation and Maintenance Manual, in English and the local language, should be provided with the solar PV water pumping system. The Manual should have information about solar energy, photovoltaic, modules, DC/AC motor-pump set, tracking system, mounting structures, electronics and switches. It should also have clear instructions about mounting of PV module, DO's and DONT's and on regular maintenance and Trouble Shooting of the pumping system. Helpline number, Name and address of the Service Centre and contact number of authorized representative to be contacted in case of failure or complaint should also be provided. A guarantee card for the modules and the motor pump set should also be provided to the beneficiary.

Comprehensive Operation and Maintenance:

- 1) The Contractor should provide 5 years comprehensive maintenance of the Solar Photovoltaic Water pumping system, which shall include corrective maintenance as well as routine service visits during CMC period.
- 2) CMC shall be in line with scheme guidelines and its amendment (if any). Apart from the monitoring, regular periodical maintenance of system has to be done. The report has to be maintained in a prescribed format containing Month, Inspection Date, Action taken against the Defects found in the System and along with signatures of both service Engineer and the farmer/ beneficiary. Maintenance report in digital form to be sent to Scheme implementing agency (SIA) and also uploaded on the portal of SIA whenever such portal or mobile app is made available.
- 3) 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.
- 4) Normal and preventive maintenance of the Solar Photovoltaic Water pumping systems such as cleaning of module surface, tightening of all electrical connections, changing of tilt angle of module mounting structure, cleaning & greasing of motor pump sets, changing filters etc. are also the duties of the deputed personnel during maintenance visits.
- 5) During the operation and maintenance period of the Solar Photovoltaic Water Pumping Systems, if there is any loss or damage of any component due to miss management or miss handling or due to any other reasons pertaining to the deputed personnel by empaneled vendor, what-so-ever, the supplier shall be responsible for immediate replacement or rectification. The damaged component may be repaired or replaced by a new component.
- 6) The maintenance shall include replacement of any component irrespective of whether the defect was a manufacturing defect or due to wear and tear.

Use of Indigenous Components

It will be mandatory to use indigenously manufactured SPV modules with indigenous mono/multi-crystalline silicon SPV cells. Further, the motor-pump-set, controller and balance of system should also be manufactured indigenously. The vendor has to declare the list of imported components used in the SPV water pumping system.

General Conditions of the Contract

Acceptance of Tender:

The successful tender/selected firms with their unit cost will be intimated by Chief Engineer, IWRD for power acknowledgement from the selected firms.

Letter of Award:

A formal Letter of Award will be issued by Chief Engineer, IWRD stating the amount of works to be executed with all necessary Terms and Condition, Specifications, Mode of Operation and work order for commencement of works.

Price Basis:

Price basis of the price quoted shall be on F.O.R (Free on Road) destination basis for site. Price mentioned in the quotation must be firm. Hence prices in Letter of Award shall be firm and not subject to escalation till the execution of the complete order and its subsequent amendments accepted by the bidder even though the completion/execution of the order may take longer time than the delivery period specified and accepted in the Letter of Award.

Statutory variation in applicable taxes & duties (other than excise duty) shall only be on account of Employer in case bidder has shown the rates of present taxes in their bid and other prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account. Even in case prices asked in Bid price Schedule are quoted as inclusive of taxes, tax rates shall be shown separately. Bidders shall quote all prices in Indian Rupees only.

Period of Validity of Bid:

Bids shall remain valid for a period of 90 days after the closing date prescribed by the IWRD for the receipt of bids. A bid valid for a shorter period may be rejected by the IWRD as being non responsive. In exceptional circumstances; the IWRD may solicit the bidder's consent to an extension of the bid validity period. The request and response thereto shall be made in writing thro' letters/ e-mails. If the bidder accepts to prolong the period of validity, the bid security/EMD shall also be suitably extended. A bidder may refuse the request for Bid Validity Extension without forfeiting its bid security. A bidder granting the request will not be required nor permitted to modify its bid.

Format and Signing of Bid:

The original copy of the bid, consisting of the documents listed shall be typed or written in indelible ink and shall be signed by the bidder or a person or persons duly authorized to bind the bidder to the contract. The authorization shall be indicated by written power of attorney accompanying the bid and submitted. All pages of the bid, except for un-amended printed literature, shall be initialled by the person or persons signing the bid.

Any interlineations, erasures or overwriting shall only be valid if they are initialled by the signatory to the bid.

Contents of the Bid:

The Bidder or consortium of bidders is expected to examine all instructions, forms, terms & conditions and scope of work in the bid documents. Failure to furnish all information required or submission of a bid document not substantially responsive to the bid document in every respect will be at the bidder's risk and may result in the rejection of the bid.

Conflict of Interest:

The contract requires that a bidder participating in a procurement/contract process under the IWRD projects shall not have a conflict of interest. All bidders found to have a conflict of interest shall be ineligible for award of contract.

Disclaimer

The IWRD and/or its officers, employees disclaim all liability from any loss or damage, whether foreseeable or not, suffered by any person acting on or refraining from acting because of any information including statements, information, forecasts, estimates or projections contained in this document or conduct ancillary to it whether or not the loss or damage arises in connection with any omission, negligence, default, lack of care or misrepresentation on the part of IWRD and/or any of its officers, employees.

Authorized Signatory (Bidder or Consortium of bidders)

The bidder or consortium of bidders as used in the bid document shall mean the one who has signed the bid document forms. The bidder or consortium of bidders should be the duly authorized representative of the bidder/consortium of bidders, for which a certificate of authority/power of attorney will be submitted along with the offer. This should clearly define the authority provided to the authorized representative. Complete offer, all certificates and documents (including reply to any clarifications sought and any subsequent correspondences) shall be furnished and signed on all pages by the authorized representative. The power of attorney or authorization, or any other document consisting of adequate proof of the ability of the signatory to bind the bidder or consortium of bidders shall be annexed to the bid as attachment in the envelope. The Chief Engineer may reject outright any proposal not supported by adequate proof of the signatory's authority.

Consortium related conditions

The bidder shall have the option to submit the proposal either alone or along with other partner companies. Prerequisites for bidder have been specified in qualifying requirement and other parts of the tender document. The lead partner shall be the sole point of contact for all purposes of the Contract. The lead partner will have the prime and sole responsibility for the execution of the scope of work. Any information/clarification submitted to the lead partner by IWRD will mean that the same has been conveyed to all partners. However, the partner companies should not be involved in any major litigation that may have an impact of affecting or compromising the delivery of services as require under this contract. The bidder or any of the partner companies should not have been black-listed any Central/State Government or Public Sector Undertakings. If at any stage of tendering process during the currency of the contract, any suppression / falsification of such information is brought to t knowledge, the Chief Engineer shall have the right to reject the proposal or terminate the contract, as the case may be, without any compensation to the tenderer & forfeiture of bid security/EMD/CPG.

Contact details of the Bidder or Consortium of bidders

Bidder or Consortium of bidders who wants to receive the IWRD's response to queries should give their contact details to the IWRD. The Bidder or Consortium of bidders should send their contact details in writing at the IWRD's contact address.

Inspection/ Checking/Testing

All materials / equipments manufactured by the bidder/consortium of bidders against the Letter of Award shall be subject to inspection, check and/or test by the IWRD or its authorized representative at all stages and place, before, during and after the manufacture. All these tests shall be carried out in the as per technical specifications and bidder shall submit the relevant test reports. If upon delivery the material/equipment does not meet the specification, the materials/equipment shall be rejected and returned to the bidder for repairs/ modification etc or for replacement. In such cases all expenses including the to-and-fro freight, repacking charges, any other costs etc. shall be to the account of the bidder

Removal of Rejected Goods and Replacement

If upon delivery, whether inspected and approved earlier or otherwise, the material/equipment is not in conformity with the specification, the same shall be rejected by the IWRD or duly authorized representative and notification to this effect will be issued to the bidder normally within 7 days from the date of receipt of the material at the work/site/office.

The bidder shall arrange removal of the rejected items within 15 days from the date of notification. In the event, the bidder fails to lift the materials within the said 15 days, Chief Engineer or his/her appointed representative shall be at liberty to dispose off such rejected items in any manner as it may deemed fit. All expenses incurred on storage, disposal etc. shall be recoverable from the bidder.

Access to Bidders Premises

IWRD and/or its authorized representative shall be provided access to bidder and/or his sub-bidder's premises, at any time during the pendency of the Order, for expediting, inspection, checking, etc. of work, if it is felt by IWRD.

Taxes, Levies and Duties

Prices of items shall be quoted as per instruction contained in bid document. However, in general, prices shall be inclusive of sales tax, transportation, insurance, levies, service tax and any other duties payable including entry tax/octroy etc, (wherever applicable) on FOR destination/site basis. All taxes and duties shall be clearly indicated. Bidder is to arrange on its own to deliver the material at site. No road permit is provided by the IWRD.

For hiring of consultant/consultancy work also service tax shall be quoted exclusive of basic price. However, rates of such taxes consider while preparing the offer should invariably be mention in the offer so that any variation in taxes (except excise duty) can be paid as actual

Terms of Payment

The payment will be made by the IWRD to the bidder in accordance with the terms and conditions. 90% of the contract value shall be paid after complete and successful delivery, installation & commissioning of the solar pumps and the remaining 10% shall be paid after the completion of 5 years maintenance by the contractor provided a completion certificate obtained from the IWRD duly signed by the Chief Engineer or his representative from each division.

Rate must be quoted both in figure and in words.

Bill will be submitted to the concerned divisions.

Payment to the contractor will be made by the concerned division. All codal formalities of CPWD-Manual & Account Code is to be observed.

All payment shall be governed by the fund flow from PM-KUSUM and the beneficiaries/State. Subject to any deduction which the Purchaser may be authorized to make under this contract, and or to any additions or deductions provided for in this contract, the contractor shall be entitled to payment as follows:

All payments shall be made in Indian Currency (INR), and will be govern by released of fund from MNRE (PM-KUSUM Component-B).

Annual Maintenance charges shall be released annually in equal percentages, after one year of completion for a period of five years.

The Employer shall pay the Contractor the amounts certified by the Engineer as and when fund is available.

Cost of Repair

The security Deposit shall be provided to the Employer as specified in the letter of acceptance and shall be issued in an amount and form and by a Nationalized/Schedule Bank acceptable to the Employer and denominated in Indian Currency (INR). The Security Deposit shall be valid until a date - 15 days after the expiry of Defect Liability Period.

10% of the bill quantity from each released bill will be retained as security deposit during the warrantee period (which is 5 years from the date of commissioning). No interest shall be payable on the Security Deposit.

Laws Governing Contract

The contract shall be constituted according to and subject to the Laws of India and jurisdiction of the Guwahati High Court, Aizawl Bench.

Language and Measures

All the documents pertaining to the Contract including specifications, scheduled, notice correspondences, operating and maintenance instructions, drawing or any other writings shall be in English or Mizo language. The metric system of measurement shall be used in this contract.

Taxes

All taxes & levies/cess etc shall be deducted as per Govt. rules.

GST, Forest Royalty including other charges levied by the Forest Department on forest products including any other taxes as applicable is to be paid by the contractor. The department shall deduct the amount of GST, ST, Labour cess (1%) and any taxes from the contractor's bill, if the contractor fails to produce the valid certificates from the concerned departments. In the case of Forest products like earth/silt/clay/ boulder/stone/sand, etc the contractor is to collect the Forest Permit/FRCC from the forest department before starting the work.

All deduction (taxes/handling charges/custom duty/income taxes/ royalties/labour cess, etc) will be made as per the Government rule/ norms prevail at the time of payment.

The bidder should indicate rates inclusive of all taxes.

Delivery Schedule

Time will be the essence of order and no variation shall be permitted in the delivery time/delivery schedule mentioned in the order unless agreed by IWRD without levy of LD. Tentative time schedule is enclosed in the bid document. Delivery of the equipment/material described shall be deemed to constitute acceptance of this order and terms and conditions by the bidder at the price specified.

Source of Supply

The bidder shall ensure that the indigenous capacity is utilized to the fullest extent possible in execution of this order. Where the imports are unavoidable, all such items shall be imported by the bidder in time against his own import license without affecting the contractual delivery schedule.

Patent Indemnity

Royalties and fees for patents covering material equipment or processes used in executing the work shall be to the account of the bidder. The bidder shall satisfy all demands that may be made at any time for such royalties and fees and he alone shall be liable for damages, infringement and shall keep the IWRD indemnified in that regard in the event of any equipment material or part there of supplied by the bidder is involved in any suit or other proceedings held to constitute infringement and its used is enjoyed, the bidder shall, at his own expenses, either procure for the IWRD the right to continue the use of such equipment/material replace it with a non-infringing material / equipment or modify it so it become non-infringing.

Tenderer shall agree to indemnify the IWRD or/and hold them harmless from against all claims. liability, loss, damage or expense including counsel fees arising from or by reasons of an action of claimed trade mark patent or copyright infringement or any litigation based thereon with respect to any part of the quoted items and such obligation shall survive acceptance of and payment for the items.

Force Majeure

Bidder shall not be considered in default if delay in delivery occurs due to causes beyond his control such as acts natural calamities, civil wars, strikes, fire, frost, floods, riot. Only those causes which have duration of more than 7 days shall be considered cause of force/ calendar majeure. A notification to this effect duly certified by local chamber of commerce/ statutory authorities shall be given by the bidder to the IWRD by registered/speed post letter. In the event of delay due to such causes, the delivery schedule will be extended for a length of time equal to the period of force majeure or at the option of the IWRD, the order may be cancelled. Such cancellation, would be without any liability whatsoever on the part of the IWRD. In the event of such cancellation, the bidder shall refund any amount advanced or paid to the bidder by the IWRD and deliver back any materials issued to him by the Purchaser and release facilities, if any provided by the Purchaser.

Limitation of Liability

Except in cases of criminal negligence or wilful misconduct, the Implementing Partner shall not be liable to the IWRD, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Implementing Partner to pay liquidated damages to the EESL and the aggregate liability of the Implementing Partner to the IWRD, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to any obligation of the Implementing Partner to indemnify the IWRD with respect to patent infringement.

Bidding Documents

As the process is a single-stage two envelope bidding process the following bid documents should be enclosed in each envelope named as follows-

A. Technical Bid Envelope:

- 1) Earnest Money.
- 2) Proof of Eligibility and Experience.
- 3) Copy of Registration of GST.
- 4) Copy of Pan Card/HTPC Certificate/Court Fee Stamp (for Non-Tribal).
- 5) Details of similar work done in the last five years along with the copies of the orders and completion certificates from the customers.
- 6) Annual turnover for the last three years as certified by a chartered Accountant.

B. Financial Bid Envelope:

The financial price bid envelope shall contain unit price bid as Annexure II (A), Annexure II (B), Annexure II (C), Annexure II (D) and Annexure II (E).

C. Outer Envelope:

- 1) Technical Bid Envelope
- 2) Financial Bid Envelope.
- 3) Receipt of the tender document fee.
- 4) The original document duly signed & sealed on each page as a confirmation of acceptance of Term & Condition (T&C).
- 5) Schedule I, Schedule II and Schedule III.
- 6) Annexure – I (Agreement)
- 7) And any other documents.

Sealing and Marking of Bids

All envelopes (A, B & C) must be sealed and super-scribed (Capital Letter) with

- a) Tender no.
- b) Name of work.
- c) Envelope name (eg. C. Outer Envelope)
- d) Content of envelope.
- e) Date of submission.

Deadline for Submission of Bids

Bids must be received by the IWRD at the address specified as under and the bids will be opened at the same address as per timings stated in IFB (Invitation for Bid) and as repeated below.

The Sr. Executive Engineer (P) Office,
Irrigation & Water Resources Department,
Mizoram, Aizawl.

Date of submission of bids: 13th – 25th September 2023 till 12:00 Hours.

Date of bid opening: 13:00 Hours, 25th September, 2023.

Bids must be received at the address specified above but no later than the time and date stated as above. In the event of the specified date for submission of bids being declared a holiday for the IWRD the bids will be received up to the appointed time on the next working day. The IWRD may, at its discretion, extend this deadline for submission of bids by amending the bidding documents in which case all rights and obligations of the IWRD and bidders will thereafter be subject to the deadline as extended.

No bid may be withdrawn in the interval between the bid submission deadline and the expiration of the bid validity period. Withdrawal of a bid during this interval may result in the bidder's forfeiture of its bid security.

Late Bids:

Any bid received by the IWRD after the bid submission deadline prescribed by the IWRD will be rejected and returned in unopened condition.

Bid Opening Process

The IWRD will open all bids in the presence of bidders' representatives who choose to attend the opening at the time, on the date and at the place specified in the NIT. Bidders' representatives shall sign a format as proof of their attendance. In the event of the specified date for the opening of bids being declared a holiday for the IWRD, the bids will be opened at the appointed time on the next working day.

Bidders' names, bid prices, discounts, the presence or absence of requisite bid security and other such details as the IWRD, at its discretion, may consider appropriate, will be announced at the opening. Late bids and/or bids not accompanied by the bidder, bids not accompanied by requisite bid security in a separate sealed envelope will be rejected and returned unopened to the bidder.

Bids that are not opened and read out at bid opening will not be considered for further evaluation, regardless of the circumstances.

The IWRD will prepare minutes of the bid opening.

Clarification on Bids

During bid evaluation, the IWRD may, at its discretion, ask the bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the price or substance of the bid shall be sought, offered or permitted.

Preliminary Examination of Bids.

The IWRD will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.

Arithmetical Errors Rectification Process

Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity, or between sub totals and the total price, the unit or subtotal price shall prevail, and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the Bidder does not accept the correction of errors, its bid will be rejected and the bid security will be forfeited.

Preliminary Evaluation

Prior to the detailed evaluation, the IWRD will determine whether each bid is of acceptable quality, is generally complete and is substantially responsive to the bidding documents. For purposes of this determination, a substantially responsive bid is one that conforms to all the terms, conditions and specifications of the bidding documents without material deviations, objections, conditionality's or reservations. A material deviation, objection, conditionality or reservation is one (i) that affects in any substantial way the scope, quality or performance of the contract; (ii) that limits in any substantial way inconsistent with the bidding documents, the IWRD's rights or the successful bidder's obligations

under the contract; or (iii) whose rectification would unfairly affect the competitive position of other bidders who are presenting substantially responsive bids.

Technical Evaluation

The IWRD will carry out a detailed evaluation of the bids previously determined to be substantially responsive in order to determine whether the technical aspects are in accordance with the requirements set forth in the bidding documents. In order to reach such a determination, the IWRD will examine and compare the technical aspects of the bids on the basis of the information supplied by the bidders, taking into account the following factors:

- a) Overall completeness and compliance with the technical specifications and drawings; deviations from the technical specifications as identified in an attachment to the bid, suitability of the facilities offered in relation to the environmental and climatic conditions prevailing at the site; and quality, function and operation of any process control concept included in the bid. The bid that does not meet minimum acceptable standards of completeness, consistency and detail will be rejected for non-responsiveness.
- b) Achievement of specified performance criteria by the facilities as per scope of work
- e) Type, quantity and long-term availability warranty spare parts and also mandatory recommended spare parts and maintenance services
- d) Any other relevant factors, if any, listed in the tender document, or that the IWRD, deems necessary or prudent to take into consideration.

Commercial Evaluation

The comparison shall be of the FOR site price of domestically manufactured plant and equipment including type test charges, if any and mandatory spares, warranty spares plus applicable sales tax & duties as well as duties and taxes paid/payable on components and raw materials incorporated or to be incorporated in the plant and equipment including mandatory spares/warranty spares plus the cost of loading, unloading, local transportation, insurance covers, installation and commissioning, civil work other services required under the contract including service tax and surcharge, if any plus any survey cost, monitoring and verification cost, distribution cost, scrap disposal cost, annual maintenance cost, any services as per scope of work, administrative charges and statutory agencies cost including service tax and surcharge, if any. The IWRD's comparison will also include the costs resulting from application of the evaluation. However, the price of recommended spare parts or optional spares or services, if asked in the bid, shall not be considered for evaluation of bids.

The IWRD's evaluation of a bid will take into account, in addition to the bid prices indicated in price schedules along with the corrections, the following costs and factors that will be added to each bidder's bid price in the evaluation using pricing information available to the IWRD, in the manner and to the extent and in the technical specifications:

- a) The cost of all quantifiable deviations and omissions from the contractual and commercial conditions and the technical specifications.
- b) Compliance with the time schedule called for and evidenced as needed in a milestone schedule provided in the bid.
- c) The functional guarantees of the facilities offered as per scope of work.

d) The extra cost of work, services, facilities etc, required to be provided by the IWRD of third parties.

Evaluations of Deviations:

The following evaluation methods will be followed

a) Technical and Commercial Deviations

The evaluation shall be based on the evaluated cost of fulfilling the contract in compliance with all commercial, contractual and technical obligations under this bidding document. In arriving at the evaluated cost, the price for withdrawal of deviations to the bid will be used if necessary. If such a price is not given, the IWRD will make its own assessment of the cost of such a deviation for the purpose of ensuring fair comparison of bids.

b) Time schedule (program of performance)

The plant and equipment covered by this bidding are required to be transported/ shipped and installed, and the facilities are to be completed within the period as mentioned below. Completion of all facilities/work: As per year/months.

The above date will be the effective date specified in the contract agreement. Bidders are required to base their prices on the time schedule or, where no time schedule is given, on the completion date(s) given above. No credit will be given for earlier completion.

The master network and the key milestone dates will be discussed with the successful bidder and agreed upon in pre-award discussion before issuance of Letter of Award. Engineering drawing and data submission schedule shall also be discussed and finalized before the issuance of Letter of Award.

After the Letter of Award, the contractor shall plan the sequence of work manufacture, supply, installation to meet the above stated dates of successful completion of facilities and shall ensure all work, manufacture, shop testing, inspection and shipment of the equipment in accordance with the required sequence.

c) Functional Guarantees of the facilities

Bidders shall state the functional guarantees (eg. performance, efficiency, consumption) of the proposed facilities in response to the technical specifications. In case a minimum (or a maximum, as the case may be) level of functional guarantees is specified in the technical specifications for the bids to be considered responsive, bids offering plant and equipment with such functional guarantees less (or more) than the minimum (or maximum) specified shall be rejected.

Contacting the Employer

No Bidder shall contact the Employer on any matter relating to its bid, from the time of the opening of bids to the time the contract is awarded.

Information relating to the examination, evaluation and comparison of bids and recommendations for the award of contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful bidder has been announced. Any effort by a Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in rejection of the Bidder's bid.

Post qualification

In the absence of pre-qualification, the IWRD will determine to its satisfaction whether the bidder selected as having submitted the lowest evaluated responsive bid/or bidder giving highest return to IWRD, as the case may be, as mentioned in special condition of contract is qualified to satisfactorily perform the contract in terms of the qualifying requirements stipulated in NIT.

The determination will take into account the bidder's financial, technical and production capabilities, in particular its contract, work in hand, future commitments and current litigation. It will be based upon an examination of the documentary evidence of the bidder's qualifications submitted by the bidder in RIP forms to the bid, as well as such other information as the IWRD deems necessary and appropriate.

An affirmative determination will be a prerequisite for award of the contract to the bidder. A negative determination will result in rejection of the bidder's bid, in which event the IWRD will proceed to the next lowest evaluated bid/next bid giving highest return to IWRD to make a similar determination of that bidder's capabilities to perform satisfactorily. The capabilities of the vendors and subcontractors proposed if permitted, to the bid to be used by the lowest evaluated bidder or bidder giving highest return to IWRD as per SCC will also be evaluated for acceptability. Their participation should be confirmed with a letter of intent between the parties, as needed. Should a vendor or subcontractor be determined to be unacceptable, the bid will not be rejected, but the Bidder will be required to substitute an acceptable vendor or subcontractor without any change to the bid price. The Employer reserves the right to assess the capacity and capability of the bidder/ his collaborator to satisfactory execute the contract. Such assessment shall include but not be limited to the evaluation of adequacy of facilities, services, resources, design / engineering capability and financial capability.

Award criteria

The IWRD will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and to be the lowest evaluated technically acceptable bid or bid offering highest return to the IWRD as the case may be as per tender documents and special conditions of contract, further provided that the Bidder is determined to be qualified to perform the contract satisfactorily.

Completion of the contract

The contractor shall request the concerned authority designated by the Chief Engineer to issue a certificate of completion of the works and the authorized personnel shall do so upon deciding that the work is completed.

Additional Conditions

The department shall deduct CESS @1% from the total amount of bill of the contractor as per prevailing Government instruction/orders. In lieu, the department shall issue a certificate of deduction of the Tax at source the contractor.

The Engineer will clarify queries on the Contract Data.

The Contractor shall construct and install the Works in accordance with the Specification and Drawings.

The Contractor shall carry out all instructions of the Engineer pertaining to works, which comply with the applicable laws where the Site is located.

The Contractor shall permit the Employer to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Employer, if so required by the Employer.

The Irrigation & Water Resources Department, Govt. of Mizoram reserves the right to add, amend, or to delete any of the items of work or part thereof and the contractor shall carry out the same as per the instruction of the Chief Engineer.

The Irrigation & Water Resources Department, Govt. of Mizoram takes no responsibility for delay, loss or non-receipt of tenders sent by post. Unsealed tenders or Telex/Telegraphic/Fax offers shall not be considered for acceptance.

The undersigned on behalf of Governor of Mizoram reserve the right to reject any or the entire tender without assigning any reasons thereof and he does not bind himself for selection of the lowest tender.


11/9/23
Chief Engineer,
Irrigation & Water Resources Deptt.
Mizoram, Aizawl

SCHEDULE -I

SCHEDULE OF THE QUESTIONARE

PART A: GENERAL INFORMATION

(Strike off whichever is not applicable. Separate sheets should be used, wherever necessary)

Name & Address of the tenderer _____

PAN No. _____ under income Tax Act and GST No

Name of contact person authorized to take decision: _____ on behalf of the tenderer and execute the work.

Name & Address of the firm /company etc. _____

a) Registered Office: _____

b) Factory/works address: _____

c) Fax Nos.: _____

d) Telephone Nos.: _____

e) Mobile No.: _____

Address of Office in Mizoram: _____

Address of Service Center in Mizoram: _____

Whether the tenderer has previously participated with: _____ (Yes/No)
THE CHIEF ENGINEER I&WRD AIZAWL

DATE:

PLACE:

Signature of the Tenderer

Full Name:

Designation/Status:

FIRM/COMPANY SEAL

SCHEDULE -II

PART B: COMMERCIAL INFORMATION

Earnest Money Details:

1. Bank draft/Bankers cheque no. _____ OF Bank for Rs.
_____ (in words _____)
payable to, THE CHIEF ENGINEER, IWRD AIZAWL Mizoram.

2. Amount of EMD & full details: Rs. _____

- Whether the offer is valid for 12 months from the date of opening of commercial/Technical bid. (if no, state, validity period) : _____
- Rate of GST tax included in the price bid : _____

DISCOUNT:

Whether any rebate/discount is offered. If yes, whether the rebate is : Yes/No
terms of payment is Acceptable to the tenderer (If no, state condition)

PAYMENT TERMS:

Whether the Chief Engineer, IWRD terms of payment is : Yes/No
Acceptable to the tenderer.
(If no, state condition) : _____

COMPLETION PERIOD OF WORK:

Whether tenderer is agreeable for completion Period of work as : Yes/No
specified in the tender

PENALTY CLAUSE:

Whether Penalty Clause has been understood : Yes/No

Whether agreeable to THE CHIEF ENGINEER , IWRD AIZAWL 's : Yes/No
clause of Warrantee period

SECURITY DEPOSIT:

- Whether Security Deposit clause is understood : Yes/No
- Indicate GST Registration Number : _____
- Whether photocopy of latest Return from The Income Tax Department : Yes/No
and Profit & loss Account and Turn over for Last 3 years up to the last
financial year have been enclosed.

PLACE:

DATE:

Signature of the Tenderer
Full Name:
Designation/Status:
FIRM/COMPANY SEAL

SCHEDULE – III

PART C: TECHNICAL INFORMATION

(Strike off, whichever is not applicable, Separate sheets should be used. Wherever necessary)

Whether material offered is exactly as per technical specification : Yes/No

Whether the copies of orders received during Last 3 years from Govt. for similar Materials enclosed : Yes/No

Whether performance certificate from such Organization regarding supplies enclosed. Give details. : Yes/No

Whether pamphlets/technical details literatures Along with drawing etc. furnished with the offer. : Yes/No

Whether the tenderer agrees to furnish material Test Certificates from MNRE/BIS approved lab with each batch of supplies. : Yes/No

Whether the tenderer has furnished details of Manufacturing equipment and short history of plant, (if not manufacturer then of those companies with whom they have tie ups) : Yes/No

PLACE:

DATE:

Signature of the Tenderer
Full Name:
Designation/Status:
FIRM/COMPANY SEAL

AGREEMENT

This agreement made on this day (d/m/y) _____ between _____
_____(Name of Company) herein after called as Contractor
(Which expression shall unless excluded by or repugnant to the context include its successors, heir,
executors, administrative representative and assignee) through Shri/Smt. _____
_____ son of Shri/Smt _____ duly
authorized by the contractor to sign this agreement on its behalf of the one part & the Chief Engineer,
IWRD Aizawl hereinafter referred to as the "**THE CHIEF ENGINEER, IWRD AIZAWL**", through
Shri/Smt _____ son of Shri/Smt _____
of other part on the following contract covenants:

Whereas the contractor has offered to enter into contract with the said THE CHIEF ENGINEER, IWRD, AIZAWL for the Site Survey, Design, Supply, Installation, Commissioning & 5 years on site warrantee of Solar Pumps on the terms and conditions herein contained and the rates approved by THE CHIEF ENGINEER, IWRD, AIZAWL (as per rates quoted in Annexure II A, B, C, D, E) have been duly accepted and whereas the necessary security deposit shall be furnished in accordance with the provisions of the tender document and whereas no interest will be claimed on the security deposits.

Now these presents witness and it is hereby agreed and declared by and between parties to these presents as follows:

1. The Contractor shall during the period of this contract that is to say from to or completion thereof, until this Contract shall be determined by such notice as is hereinafter mentioned safely carryout, by means of labors employed at his own expenses and by means of tools, implements and equipment etc. to be supplied by him to his labour at his own expenses for installation of Solar pump and other associated works as described in tender documents (Annexed to the agreement).
2. The NIT (Notice Inviting Tender), Corrigendum to NIT Bid documents (Qualifying and Financial), approved rates annexed hereto and such other additional particulars, instructions, engineering documents & drawings so far they relate to the Tender No as may be found requisite to be given during execution of the work shall be deemed and taken to be an integral part of the contract and shall also be deemed to be included in the expression "The Agreement" or "The Contract" wherever herein used.
3. The contractor shall also supply the requisite number of workmen with means & materials as well as tools, appliances, machines implements, vehicles for transportation cartage etc. required for the

proper execution of work within the time prescribed in the work orders and for as per the tender conditions.

4. Contractor shall render a warrantee of five (5) years towards SPV Power Plants and its components from the date of commissioning as per the terms & conditions prescribed in the Tender No. 01 of 2023-24/CE.
5. The contractor hereby declares that nobody connected with or in the employment of THE CHIEF ENGINEER, IWRD, AIZAWL is not/shall not ever be admitted as partner in the contract.
6. The contractor shall abide by the terms and conditions rules, guidelines, construction practices, safety precautions etc. stipulated in the tender document including any correspondence between the contractor and THE CHIEF ENGINEER, IWRD, AIZAWL having bearing on execution of work and payments of work to be done under the contract.
7. The contractor shall be responsible to follow all the laws including Workmen Compensation Act and all other laws in force & shall be responsible for all the obligations towards labour including EPE, ESI, etc.
8. The contractor shall be liable to clear payments of their vendors staff and other associates engaged for the works assigned by THE CHIEF ENGINEER, IWRD, AIZAWL to the contractor. In case of disputes regards to the aforesaid lines THE CHIEF ENGINEER, IWRD, AIZAWL can release payments to the vendors/ staff and other associates engaged directly from the due payments of the contractor.
9. All the taxes deductible at source as per Acts in vogue shall be recovered by THE CHIEF ENGINEER, IWRD, AIZAWL and deposited with the appropriate authorities.

In witness whereof the parties present today has hereby entered into agreement.

The Contractor,
Name:
Designation:

(LALROTLUANGA)
Chief Engineer
Irrigation & Water Resources Department
Mizoram, Aizawl

Witness

Name:
Designation:
Address:

Name:
Designation:
Address:

ANNEXURE-II (A)

PRICE BID FOR UNIT SURFACE WATER PUMP

Name of Work: Supply, Installation and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems Complete.

Tender No. : 1 of 2023-24/CE

SI. No.	Item of Works	Quantity	Unit	Rate (in Rs)	
				Figure	In Words
1	Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems of IHP (Surface Pump) in the State of Mizoram including complete system warranty and its repair and maintenance for 5 years under MNRE PM-KUSUM scheme Component-B.	1	No.		

ANNEXURE-II (B)

PRICE BID FOR UNIT SURFACE WATER PUMP

Name of Work: Supply, Installation and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems Complete.

Tender No. : 1 of 2023-24/CE

Sl. No.	Item of Works	Quantity	Unit	Rate (in Rs)	
				Figure	In Words
1	Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems of 2HP (Surface Pump) in the State of Mizoram including complete system warranty and its repair and maintenance for 5 years under MNRE PM-KUSUM scheme Component-B.	1	No.		

ANNEXURE-II (C)

PRICE BID FOR UNIT SUBMERSIBLE WATER PUMP

Name of Work: Supply, Installation and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems Complete.

Tender No. : 1 of 2023-24/CE

Sl. No.	Item of Works	Quantity	Unit	Rate (in Rs)	
				Figure	In Words
1	Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems of 0.50 HP (Submersible Pump) in the State of Mizoram including complete system warranty and its repair and maintenance for 5 years under MNRE PM-KUSUM scheme Component-B.	1	No.		

ANNEXURE-II (D)

PRICE BID FOR UNIT SUBMERSIBLE WATER PUMP

Name of Work: Supply, Installation and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems Complete.

Tender No. : 1 of 2023-24/CE

Sl. No.	Item of Works	Quantity	Unit	Rate (in Rs)	
				Figure	In Words
1	Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems of 1 HP (Submersible Pump) in the State of Mizoram including complete system warranty and its repair and maintenance for 5 years under MNRE PM-KUSUM scheme Component-B.	1	No.		

ANNEXURE-II (E)

PRICE BID FOR UNIT SUBMERSIBLE WATER PUMP

Name of Work: Supply, Installation and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems Complete.

Tender No. : 1 of 2023-24/CE

Sl. No.	Item of Works	Quantity	Unit	Rate (in Rs)	
				Figure	In Words
1	Design, Manufacture, Supply, Transport, Installation, Testing and Commissioning of Off-Grid Solar Photovoltaic Water Pumping Systems of 2 HP (Submersible Pump) in the State of Mizoram including complete system warranty and its repair and maintenance for 5 years under MNRE PM-KUSUM scheme Component-B.	1	No.		