



IRRIGATION AND WATERWAYS DIRECTORATE
GOVERNMENT OF WEST BENGAL
OFFICE OF THE EXECUTIVE ENGINEER
TEESTA BARRAGE ELECTRICAL DIVISION

Memo No: 49

Dated: 25.01.2024

[Invitation for Expression of Interest/for Budgetary Quotation]

EOI No.: WBIW/EE/TBED/EOI-05/2023-24

Sl No	Particulars	Details
01	Start Date of Issuance of EOI Document	01.02.2024
02	Last date of submission of Queries	07.02.2024
03	Pre bid meeting	08.02.2024
04	Last Date of Issuance EOI Document	15.02.2024
05	Last Date and time for Submission of EOI	15.02.2024
06	Date of opening of EOI	16.02.2024

NAME OF THE WORK:

"Supply, installation & commissioning of automatic (Imagery Based) gauging and discharge measuring station at TMLC canal specified location for accurate measurement of TMLC discharge under jurisdiction of Teesta Barrage Electrical Division."

EXECUTING DIVISION: Teesta Barrage Electrical Division

YEAR: 2024-25

[Expression of Interest]

1.0 Invitation for EOI / Single stage of Bidding

The Executive Engineer, Teesta Barrage Electrical Division invites EOIs from prospective bidders ('Bidders') for the work **Supply, installation & commissioning of automatic (Imagery Based) gauging and discharge measuring station at TMLC canal specified location for accurate measurement of TMLC discharge under jurisdiction of Teesta Barrage Electrical Division.** The successful Bidder will carry out the scope of work in accordance with the specifications provided in a detailed Request for e-NIT document which will be brought out by the Executive Engineer, Teesta Barrage Electrical Division in later stage after obtaining administrative approval of the work. Now, Executive Engineer, Teesta Barrage Electrical Division seeks EOI for budgetary quotes from Bidders of repute for the above work from Bidders who meet the pre-qualification criteria specified in this document will be short-listed to have comparison of cost between various prospective bidder. In case of non-compliance they may offer their own solution.

2.0 Introduction to the project

Irrigation & Waterways Department, Govt of West Bengal has undertaken the measures for irrigation, control, conservation and utilization of water resources throughout the state. In addition to that, Department has to maintain flood & drainage congestion. It has been maintaining 10400 KM of river embankment & 8300 KM of drainage channel in urban, semi urban and rural area. In addition to that this department maintaining 11 nos. major drainage pumping stations and irrigation colonies, inspection bungalows located at different districts of the state.

The project is introduced for improvement of water quality used for drinking and as well as domestic purpose at Irrigation Colony, Tinbatti, Siliguri and office, bungalows and field hostels by installing new standard type Iron Removal plant with treatment comprising aeration, dual media filtration (adsorptive filtration) and chemical disinfection adopting suitable technology.

3.0 Indicative scope of work

Supply, installation & commissioning of automatic (Imagery Based) gauging and discharge measuring station at TMLC canal specified location for accurate measurement of TMLC discharge under jurisdiction of Teesta Barrage Electrical Division.

4.0 Instructions to Bidders

- Bidders are advised to study all instructions, forms, terms, requirements and other information in the EOI documents carefully. Submission of the bid shall be deemed to have been done after careful study and examination of the EOI documents with full understanding of its implications.
- The response to this EOI should be full and complete in all respects. Failure to furnish all information required by the EOI documents or submission of a proposal not substantially responsive to the EOI documents in every respect will be at the Bidder's risk and may result in rejection of its proposal.

[Expression of Interest]

- For better understanding of work, brief description of work as per our preliminary assessment are given for better understanding of the project. In this stage bidder are requested to propose their work description, with quoting rate , so that in later stage under detailed NIT, complete scope of work and technical specification may be enclosed , so that bid may be evaluated on equal footing.

4.1 EOI proposal preparation costs & related issues

- The Bidder is responsible for all costs incurred in connection with participation in this process, including, but not limited to, costs incurred in conduct of informative and other diligence activities, participation in meetings/discussions/presentations, preparation of proposal, in providing any additional information required by the Purchaser to facilitate the evaluation process, unless explicitly specified to the contrary.
- Purchaser will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- These Expression of Interest (EOI) are purely for estimation purpose and to know the present market rate and under no circumstance, It shall be construed as quotation for placing the supply order. For competitive bidding separate notice inviting Tender will be published.

5.0 Pre-bid Meeting

- 5.0.1 Executive Engineer, Teesta Barrage Electrical Division shall hold a pre-bid meeting (both offline and online) with the prospective Bidders on **08.02.2024 at 15:00 Hrs at O/O Executive Engineer, Teesta Barrage Electrical Division, Teesta Administrative Building, Tinbatti, Siliguri-734005**. The Bidders will ensure that their queries with regard to the EOI, to be addressed by the EOI issuing Authority during the Pre-Bid meeting shall reach by post, facsimile or email on or before **07.02.2024 at 17:00 Hrs** to the officer whose details are provided below :

Executive Engineer

Teesta Barrage Electrical Division

Teesta Administrative Building, Tinbatti, Siliguri-734005

Email Id: eebed@gmail.com, ee-teestabedvn@wbiwd.gov.in

Mobile No. : 9476155032/ 9875503310

5.1 Responses to pre-bid queries and issue of corrigendum

- 5.1.1 The EOI issuing authority will endeavor to provide timely response to all queries. However, the department makes no representation or warranty as to the completeness or accuracy of any response made in good faith.
- 5.1.2 At any time prior to the last date for receipt of bids, EOI inviting authority may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the EOI document by issuing a corrigendum.
- 5.1.3 The corrigendum (if any) & clarifications to the queries from all Bidders will be posted on

[Expression of Interest]

the <<https://wbtenders.gov.in>>, (www.wbiwd.gov.in) and emailed to all participants of the pre -bid conference.

5.1.4 Any such corrigendum shall be deemed to be incorporated into this EOI.

5.1.5 In order to afford prospective Bidders reasonable time in which to take the corrigendum into account in preparation of their bids, Purchaser may, at its discretion, extend the last date for the receipt of EOI Bids.

5.2 Right to terminate the EOI process

5.2.1 EOI issuing authority may terminate the EOI process at any time without assigning any reason. EOI issuing authority makes no commitments, expression or implied that this process will result in a business transaction with anyone.

5.3 Bid Submission Procedure

<Option 1: In case of Online Submission on e-Procurement portal>

Bidders should submit their responses to an EOI as per the procedure specified in the e - Procurement portal (*specify URL*) being used for this purpose. *Generally, the items to be uploaded and the portal would include all the related documents mentioned in this EOI, such as:*

- Tender Fee (in this case, no EMD is required)
- Pre-qualification response
- Additional certifications/documents Eg. Power of Attorney, CA certificates on turnover, etc.

However, each of the above documents must be uploaded in the format specified for this purpose and as per the specified folder structure in the e-Procurement portal.

The bidder must ensure that the bid is digitally signed by the Authorized Signatory of the bidding firm and has been duly submitted (freezed) within the submission timelines. The Department will in no case be responsible if the bid is not submitted online within the specified timelines.

All the pages of the Proposal document must be sequentially numbered and must contain the list of contents with page numbers. Any deficiency in the documentation may result in the rejection of the Bidder's Proposal.

OR

<Option 2: In case of physical submission of bids at office of Executive Engineer >

a. Bids shall be submitted in a single sealed envelope and superscripted <Name of the Work > and <Reference EOI No.>. This envelope should contain two hard copies of EOI proposal marked as "First Copy" and "Second Copy" and one soft copy in the form of a non-rewriteable Compact Disc (CD). CD media must be duly signed using a permanent pen/ marker and should bear the name of the Bidder. **Bids are to be dropped in tender box kept in the O/O Executive Engineer, Teesta Barrage Electrical Division, Tinbatti, Siliguri – 734005.**

b. Bids shall consist of supporting proofs and documents as defined in the Pre -

[Expression of Interest]

qualification section.

- c. Bidder shall submit all the required documents as mentioned in the Appendix including various templates (Form 1 to Form 4). It should be ensured that various formats mentioned in this EOI should be adhered to and no changes in the format should be done.
- d. Envelope should indicate clearly the name, address, telephone number, Email ID and fax number of the Bidder.
- e. Each copy of the EOI should be a complete document and should be bound as a volume. The document should be page numbered, must contain the list of contents with page numbers and shall be initialed by an authorized representative of the Bidder.
- f. Different copies must be bound separately.
- g. Bidder must ensure that the information furnished by him / her in respective CDs is identical to that submitted by him in the original paper bid document. In case any discrepancy is observed by the authority in the contents of the CDs and original paper bid documents, the information furnished on original paper bid document will prevail over the soft copy.
- h. EOI document submitted by the Bidder should be concise and contain only relevant information as required under the EOI Bids shall consist of supporting proofs and documents as defined in the Pre - qualification section.
- h. Bidder shall submit all the required documents as mentioned in the Appendix including various templates (Form 1 to Form 4). It should be ensured that various formats mentioned in this EOI should be adhered to and no changes in the format should be done.
- i. Envelope should indicate clearly the name, address, telephone number, Email ID and fax number of the Bidder.
- j. Each copy of the EOI should be a complete document and should be bound as a volume. The document should be page numbered, must contain the list of contents with page numbers and shall be initialed by an authorized representative of the Bidder.
- k. Different copies must be bound separately.
- l. Bidder must ensure that the information furnished by him / her in respective CDs is identical to that submitted by him in the original paper bid document. In case any discrepancy is observed by the Purchaser in the contents of the CDs and original paper bid documents, the information furnished on original paper bid document will prevail over the soft copy.
- m. EOI document submitted by the Bidder should be concise and contain only relevant information as required under this EOI.

[Expression of Interest]

5.6 Short listing criteria

- 5.6.1 Purchaser will shortlist Bidders who meet the pre-qualification criteria mentioned in this EOI.
- 5.6.2 Any attempt by a bidder to influence the bid evaluation process may result in the rejection of its EOI proposal.

5.7 Evaluation Process

- 5.7.1 The Executive Engineer, Teesta Barrage Electrical Division, Siliguri will constitute a committee to evaluate the responses of the Bidders in response to this EOI document.
- 5.7.2 Each of the responses shall be evaluated to validate compliance of the Bidders according to the pre-qualification criteria, forms and the supporting documents specified in this EOI document.
- 5.7.3 The decision of the Tender Committee in the evaluation of responses to the EOI shall be final. No correspondence will be entertained outside the evaluation process conducted by the Purchase Committee.
- 5.7.4 The Tender Committee may ask for meetings with the Bidders to evaluate its suitability for the assignment
- 5.7.5 The Tender Committee reserves the right to reject any or all proposals.

[Expression of Interest]

5.8 Pre-qualification evaluation criteria

#	Basic requirement	Specific requirements	Documents required
1	Legal Entity	<ul style="list-style-type: none"> - Should be a company registered under the provisions of the Indian Companies Act, 2013 or a partnership firm registered under the Indian Partnership Act, 1936 or the Limited Liability Partnerships Act, 2008. - Registered with the GST authorities. - Should have been operating for the last three years. 	<ul style="list-style-type: none"> - Certificate of incorporation / Partnership deed - GST registration - Certificate of commencement of business (if applicable)
2	Board resolution / Power of attorney in favour of authorised signatory	A board resolution OR power of attorney in the name of the person executing the bid, authorizing the signatory to commit the Bidder.	Board resolution; OR Power of attorney with appropriate supporting documents
3	Sales turnover	<p>Annual sales turnover generated from services related to system integration during each of the last three financial years (as per the last published Balance sheets), should be at least INR <value in numbers and words>.</p> <p>This turnover should be on account of Information Communication Technology (ICT) systems development and implementation (i.e. revenue should be on account of system integration/turnkey solutions or products and their associated maintenance or implementation services, packaged software etc.) only</p>	<p>Extracts from the audited balance sheet and profit & loss;</p> <p>OR</p> <p>Certificate from the statutory auditor</p>

[Expression of Interest]

4	Technical capability	<p>Bidder must have successfully completed at least the following numbers of work for Manufacturer, supply of floating trash skimmer equipment (with or with out O&M) of values specified herein:</p> <ul style="list-style-type: none"> - One project of similar nature not less than the amount <value equal to 80% of quoted cost>; OR - Two projects of similar nature not less than the amount equal <value equal to 60% of quoted cost cost>; OR - Three projects of similar nature not less than the amount equal <value equal to 40% of quoted cost 	<p>Completion certificates from the competent authority ; OR Work order + Self certificate of completion (Certified by the statutory auditor)</p>
5	Debarment	<p><i>Debarment should used as a mandatory Pre-Qualification criterion to restrict organizations that have been either debarred by by the tendering department for breach of ethical conduct or fraudulent practices, etc. as specified in Rule 151 of GFR.</i></p>	<p>Self Certified letter that the bidder (or any of its successor) is not in the active debarred list published by:</p> <p>a) Central/ State Public Procurement Portal; and</p>

5.9 Examination of Bids and Determination of Responsiveness

The Bid evaluation committee (TEC) will evaluate whether each Bidder is satisfying the eligibility and qualifying criteria prescribed in the pre-qualification document and declare names of the qualified Bidders.

Prior to the details evaluation, the tender accepting authority will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these clauses, a substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. For that purpose a separate sheet for **Guaranteed Technical Particulars** are attached.

Assessment: The detailed assessment for pre-qualification shall be based on the following information submitted by the Bidder:

1. Data submitted in prescribed format given in tender documents.
2. Bidder's techno-commercial proposals for carrying out the entire works in accordance with the specifications in this document.

The techno-commercial submissions must principally demonstrate the adequacy of bidders' appreciation of the:

[Expression of Interest]

- The project
- Design and detail engineering
- The methods proposed for mobilization and establishment of site installation and for the timely completion, testing and commissioning and O&M of the project.
- The arrangements for the logistic support for completion, testing and commissioning of all works of the project.
- Requirements of the Department.

Bidders are advised to note that the evaluation of techno-commercial bids will be based on the detailed examination of the submittals and would be carried out mainly on the basis of the following principal aspects of the techno-commercial bids.

- (i) Financial Strength
- (ii) Experience of Similar Class of work
- (iii) Performance of Work
- (iv) Personnel & Establishment
- (v) Plant and Equipments.
- (vi)

5.10 FOMAT FOR LETTER OF RESPONSE (ANNEXURE-A)

(ANNEXURE-A)

To
The Executive Engineer
Teesta Barrage Electrical Division
Irrigation & Waterways Directorate
Teesta Administrative Building
Tinbatti, Siliguri

Sub: - RESPONSE TO – EOI

Dear Sir ,

1. We, the undersigned , offer the following information in response to the Expression of Interest sought by you vide your EOI – No. Dated
2. We are duly authorized to represent and act on behalf of _____
(here in after the “respondent”)
3. We have examined and have no reservations to the EOI Document including Addenda No(s)

4. I/We understand that
 - a) This EOI is intended to procure CCTV by Irrigation and waterways Department , Govt. of West Bengal.
 - b) Irrigation and waterways Department , Govt. of West Bengal may float a separate Tender (based on their requirement) , with all conditions like Eligibility Criteria , and our participation in this EOI doesn't guarantee any qualification to that tender .

[Expression of Interest]

5. We are attaching with this letter , the copies of original documents defining :-
- a) The Respondent's legal status ;
 - b) Its principal place of business;
 - c) Its place of incorporation (if respondents are corporations); or its place of registration (if respondents are cooperative institutions, partnerships or individually owned firms);
 - d) Self-certified financial statements of Last three years, clearly indicating the financial turn over and net worth.
 - e) Copies of any project undertaken for the last 5 years, in any Govt department .
6. We shall assist Irrigation and waterways Department, Govt. of West Bengal its authorized representatives to obtain further clarification form us , if needed .
- a) Executive Engineer of Teesta Barrage Electrical Divisionis authorized representative may contact the following nodal persons for further information on any aspects of the Response :

Sl No.	Contact Name	Address	Telephone	E-mail

7. This application is made in the full understanding that:
- a) Reserves the right to reject or accept any or all applications , cancel the EOI and subsequent bidding process without any obligations to inform the respondent about the grounds of same .
 - b) We confirm that we are interested in participating in the selection process through this EOI .
8. We certify that our turnover and net worth in the last three years is as under :

Financial Year	Turn over	Net worth

9. In response to the EOI we herby submitting the following details annexed to this application :
10. The undersigned declare that the statements made ad the information provided in the duly completed application are complete , true , and correct in every detail . We also understand that in the event of ant information furnished by us being found later on to be incorrect or any material information having been suppressed , may delete our name from the list of potential bidders. We further understand that Irrigation and waterways Department , Govt. of West Bengal will give first preference to the applicants considered relevant for the purpose .

[Expression of Interest]

Yours sincerely ,

(sign)

Name

In the Capacity of

Duly authorized to sign

The response for and on behalf of

6.0 A. TECHNICAL SPECIFICATION OF G & D MEASURING STATION

A. SCOPE OF WORK:

- i. Supply, Installation, Testing, Calibration and Commissioning of the hydro-meteorological data collection network.
- ii. Supply a detailed technical, operation and maintenance manual for each appropriate unit of supplied instruments / equipment.
- iii. Provide classroom and field training not less than 10man days. This includes operation and maintenance procedures to be carried out at the field stations.
- iv. Provision for warranty services for one years (01) during warranty period each faulty item should be replaced by agency in his own cost.
- v. Comprehensive Annual Maintenance Contract (CAMC) for three (03) years beyond the expiry of warranty including operation, maintenance and repairing of equipments.

B. TECHNICAL SPECIFICATIONS OF INSTRUMENTS / EQUIPMENT :

Specification for G&D sensor System for Contactless Automatic Imagery based Gauge & Discharge (AG&D) measuring station

Purpose :- Measurement of water velocity and water level using Image velocimetry , sensing the surface velocity through out the span of the river

The System should satisfy the following Minimum specifications

General Description;- Contact Free ,Video Camera based measurement system for acquisition of the 2D Surface Velocity field and profile as well as the direct calculation of the Discharge. It should display V mean, water level and Q Discharge on the monitor ,, data storage and remote transmission of measured data and Images .by wired/wireless communication.

[Expression of Interest]

The measuring method operates on visible moving water surface structures. The applied optical method for velocity measurements should be based on the well-established surface structure image velocimetry (SSIV) technique. The system should be able to calculate the vertical distribution of velocity using an appropriate mathematical model for example mixing length model or equivalent and provide the velocity distribution profile and the discharge at site.

The optical method used for velocity profile measurement and discharge measurement involves: the non contact water level measurement, surface velocity measurement ,(through out the span of the river) calculation of the vertical velocity profile and the discharge estimation. The camera and the system does the video recording, image pre-processing, and image analysis

On-site Components:

The Camera System should be able to measure the water level and Measure the surface velocity profile using an bullet Camera and optical image processing technology

Camera Location: The system should be able to function by suitably locating the camera on the bank of the river . The camera location must be calibrated using highly accurate digital distance meters of Reputed make like Leica and should be directly downloaded on the central processing unit , and the system should be able to take the calibration value automatically

Measurement Schedule

Measurement and transmission schedule (optionally) should be freely programmable at user defined intervals .Bidder should estimate the requirement of illumination at the Location and If required , consider adequate arrangement with the system

1) Technical Specification of G&D measurement sensor.

S.No	Water Level Radar Sensor	Details
1	Sensor Type :	Non Contact Radar Level
2	Range:	20 m
3	Resolution:	1 cm
4	Accuracy:	± 1 mm
5	Beam angle:	≥ 3°

[Expression of Interest]

Velocity sensor for Imagery based sensor

S.No.	Velocity Measurement Sensor Non-contact Camera Sensor	Details
1	Sensor Type:	Outdoor camera type "Bullet" for 230V / 12 VDC supply, Include IR emitter/flash ,
2	Measurement Principle:	Image velocimetry
3	Accuracy:	Flow velocity: < 5 % of measured value* Water level: < 1 cm* Discharge: < 10 % of measured value*
4	Resolution:	3 MP full HD 1080p PoE IR
5	Direction recognition:	Provided
6	Measurement duration:	10 to 15 Second
7	Measurement interval:	Selectable from Flow control unit
8	Inclination:	View angle to be set specific to each site
9	Distance of water surface:	120 m+
10	Sensor Digital interface:	IP Camera

[Expression of Interest]

2) Technical Specification of Image processing unit.

Image processing Units capabilities	
Function	for image processing and storage of videos, images and measurement data
System	Should be a fan-less system.
Operating system:	Linux incl. 2x 128GB USB memory (1x for archiving)
Mounting	Wall/Surface Mounting
Enclosure	Protection class; IP65 preferred (However Mounting will be done inside the shed covered from the Top)
Measuring range	+/- 15 m/s ,
Accuracy	Average Flow velocity: < 5 % of measured value* Flow rate: < 10 % of measured value* (compare to ADCP)
Data Transmission	Vis GSM/GPRS using FTP push
Data to be stored	Velocity, water level, Discharge , Proof Image , to be transmitted Video Clipping of each measurement to be stored at the station
Environment Condition:	Operating temperature -10°...+50°C
Power Supply	230V AC / 12V dc
Standardization	Special cable which is used as matched pair with the system should be supplied by the flow meter manufacturer itself
Accessories & Toolkit	Required Accessories such as carrying case, supply and interfacing cables. Essential tools kit to be supplied

[Expression of Interest]

Manuals	Technical / Operational and maintenance manuals complete with diagrams be provided with each unit separately in soft as well as hard copies
Installation, Testing and Commissioning	Installation, Testing and Commissioning should be carried out at Specified sites (latitude , longitude) Location 1.....Location 2.....
Training	Shall be provided to users by expert in relevant field on equipment and software
Acceptance Criteria	As per tender conditions
Warranty	Standard Manufacturer's warranty 12 Months from Installation

3. Technical Specification of GPRS Modem :

GSM / GPRS Communication

Overall requirements for compatibility to a GSM/GPRS modems compatible 4G / 5G cellular networks may be ensured by the bidder. Technical specifications in this aspect are broadly indicative. Complete end-to-end solution shall be the responsibility of the bidder. Cellular communication features shall include support for UDP / TCP protocol for data transmission.

GSM / GPRS Modems compatible with 4G/5G network

(Modems should facilitate fast and reliable data communication along with support for dynamic domain access to the central server IP address)

The following technical specifications are indicative and not exhaustive.

- Facility for Fixed IP and domain transfer of data
- Supports standard AT command set
- Compatible for Standard GSM Networks available in India
- If required additional battery needs to be included for power supply.

GSM/GPRS Antenna

- Frequency range : 850, 900, 1800, 1900 MHz
- Gain : More than 7 dbi

[Expression of Interest]

- Impedance : 50 ohms
- VSWR : ≤ 2.0
- Radiation : Omni-directional
- Operating temperature : -10 to +55 degrees Celsius
- Connector : SMA adaptable to GSM modem

Cable length : As required

4. Earthing and lightning arrester:

To protect the sensors and data logger from static charge the grounding of the system at all the site should be provided as per the standard earthing procedures.

Agency should provide lightning arrester with separate earthing electrode.

5. Solar Power System

The solar power system has to be provided as a power system for instrumentation system located at G & D measurement site. It shall have following minimum features:

- a) Supply, Erection and commissioning of Solar power system with all allied ancillaries for providing an uninterrupted power supply at G & D measurement site as per the schedule of requirement and shall provide power backup for minimum 10 days without sunshine/charge. The Solar Panels shall be provided in anodized aluminum frame with tubular batteries with conformance to IEC- 61730, 61215 and 61701.
- b) The Solar power system shall be mounted on the roof of site buildings wherever existing else the mast-based installation shall be adopted. The Contractor shall also supply a pole – mounted arrangement including a standard pole and necessary foundation and fixing arrangements. The location of solar power system installation shall be indicated by the concerned engineer – in – charge.
- c) The batteries required for the equipment above shall be maintenance free, rechargeable sealed batteries with Overcharge and deep discharge protection Leak-proof Easy handling, Excellent recharge ability.
- d) The battery pack shall also include arrangements of charging through a standard AC power supply available nearby and also from solar panels established as above.
- e) The solar power system unit shall have audio or visual alarms for overcharging and deep discharging conditions. The sealed construction shall allow trouble-free, safe operation in any position. The battery case shall be high impact, with sufficient resistance to shock, vibration, chemicals and heat.
- f) The necessary housing and configuration of the batteries shall be furnished in detail by the Contractor.
- g) The battery case shall be high impact, with sufficient resistance to shock, vibration, chemicals and heat.

[Expression of Interest]

h) The disposal of batteries during 5 years' comprehensive warranty period is in the scope of bidder.

The solar panel offered shall confirm the following technical specifications:

Feature : Requirement

Battery : Voltage As required for instrumentation system

Type : Sealed maintenance free

Capacity : power supply system shall provide 48 hour of backup to all equipment 's being powered up by the solar panel

Solar Panel:

Size : power supply system shall provide min 10 days of backup to all equipment 's being powered up by the solar panel.

Mounts : The mounts shall be detachable but shall not move or rotate with wind. It shall have a provision to adjust direction and elevation during installation for optimal solar power generation

Charger : Smart solar charger shall be provided by the bidder

General

The supplier shall determine optimal size of solar panels and batteries such that the system will be operational for at least 10 days in absence of charging/ without sunshine.

The supplier shall also provide the calculation of power consumption of Solar power system.

6. Fencing for site

The fencing shall be provided at inflow gauging sites with following minimum specifications:

- a) The height of the fencing for the site must be 3 meters from the ground level.
- b) The fencing must be made over a cement foundation which is 230mm above ground level.
- c) Fencing angle should be of size 50mm x 50mm x 6mm and pre coated with red-oxide.
- d) The total length of the fencing angle should be 3.8 meters i.e. (3.0m above ground level + 0.8 m below ground level)
- e) Two MS angles must be used diagonally at each of the four corner angles of the site. The angles can be attached (with welding or the other appropriate means) from the middle of the existing corner angle to the ground. The depth of the support will remain the same as of main angle.

[Expression of Interest]

- f) The dimensions of the fencing angle foundation should be 450mm x 450mm (length X width) and at a depth of 800mm. The foundation should be square shaped. Distance between each fencing angle should be 1.5 to 2 meter.
- g) Dimensions of GI Chain-link: 2 inches' x 2 inches and of Gauge: 10 (3 mm diameter).
- h) GI chain-link mesh must be stretched and welded/fixed properly on the fencing angles.
- i) A pipe or angle must be fixed on the upper part of the fencing to have a neat finishing and at the same time to avoid loosening of the fencing over a period of time.
- i) The chain-link fencing should be fastened with the help of screws fitted on the fencing angles. Alternately it may be welded neatly at four equidistant positions of 0.5 m each. Gate
- j) Dimensions: 1 m X 2 m (Width x Height) with locking facility
- k) The gate must be fabricated by MS Angle whose dimensions should be minimum 40mm x 40mm x 6mm
- l) Suitable locking facility with 3 keys for safety purposes is mandatory. Standard locks should be used.
- J) Height of Mast should be 6 meters or above and should be triangular lattice mast as per the field layout drawing. The mast and the installation accessories should be galvanized or should be of stainless steel for external installations.

7. Enclosures

The Data logger with GSM/GPRS modem must be enclosed in MS material IP- 65 enclosure. A separate Nema 4 enclosure may be provided for charge controller and batteries to ensure protection of equipment from environment. The enclosure must be all weather proof sealed and lockable. MS sheet thickness will be 2mm and MS angle 25 mm x 3mm.

8. Software Deliverables

- a) The supply shall be inclusive of complete software modules running on the system for provision of complete functionality. The supplier shall mention all the modules which are available along with their costs for selection of anyone or more of them. The essential modules which are obligatory for a standard system performance shall be indicated separately.
- b) The system shall have appropriate operating system software to provide password protection of different levels for system settings and data downloading operations etc.

[Expression of Interest]

EOI No. WBIW/EE/TBED/EOI-05/2023-24

Memo No: 49/1(3)

Date: 25.01.2024

Copy forwarded for information and taking necessary action please for wide publication to :-

1	The Chief Engineer, Mech & Elect , I&W Directorate, 2 nd Floor, Jalsampad Bhawan, Govt of West Bengal.
2	The Superintending Engineer, North Bengal Mechanical Electrical ,Tinbatti, Siliguri.
3	Office Notice board.

Sd/-

Executive Engineer

Teesta Barrage Electrical Division

Tinbatti,Siliguri
