

NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

DEPARTMENT OF CENTRE FOR SYSTEM DESIGN
POST-SRINIVASNAGAR, MANGALORE – 575 025 (D K)

Phone: (0824) 2474000.

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Website: <http://www.nitk.ac.in>



TENDER DOCUMENT

Tender Notification No: NITK/CSD/2024/COF/IWRAP/PU-04

Date: 08/03/2024

Name of Goods	Intelligent Water Recycling for Aquaculture Ponds
The estimated amount put to Tender	₹ 4,90,000/- (Including GST) (Refer Section 1B,21)
EMD Amount (2% of estimated amount)	₹ 9,800/-
Time for Supply of item	3 Week
Bid Document Download Start Date	11-03-2024, 5:30 PM
Clarification Start Date	11/03/2024, 5:30 PM
Clarification End Date	31/03/2024, 4:30 PM
Online Bid Submission Start Date	11/03/2024, 5:30 PM
Online Bid Submission End Date	31/03/2024, 4:30 PM
Address for Submission of Tender	https://eprocure.gov.in/
Opening date of technical bid	01/04/2024, 4:30 PM
Contact Details of Buyer	Dr.Pruthviraj U Associate Professor, Dept. WR&OF, Professor In charge (Transdisciplinary R & D) Centre for System Design NITK Surathkal-575025 (M): 9972797225, pruthviu@nitk.edu.in

**NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL**

(Institute of National Importance Under Ministry of Education, Govt. of India)

POST-SRINIVASNAGAR, MANGALURU – 575 025

Phone: (0824) 2474 000.

Fax: (0824) 2474 033/ 2474 039

Email: registrar@nitk.ac.in

Website: <http://www.nitk.ac.in>

Tender Notification No: NITK/CSD/2024/COF/IWRAP/PU-04

Date: 08/03/2024

NOTICE INVITING e-TENDER (e-NIT)

The National Institute of Technology Karnataka, Surathkal (in short – NITK, Surathkal) is an Institute Of National Importance Under Ministry of Education, Govt of India imparting Technical Education and engaged in Research Activities.

Online Tender (<https://eprocure.gov.in/>) is invited for the following items in **two cover systems** (i.e., Technical bid and financial bid) subject to the following terms and conditions, from the reputed manufacturers or its authorized dealers so as to reach this office on or before scheduled date and time. The tender (Technical bid) will be opened online on the due date as mentioned. Bidders can verify their bid status through the online portal <https://eprocure.gov.in/>. The financial bid of only such bidders whose technical bid is accepted shall be opened on the same day or later pre-informed date.

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Sd/-
HOD

SECTION 1 A: Instructions for Online Bid Submission

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submit their bids online on the CPP Portal.

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

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

REGISTRATION

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

SEARCHING FOR TENDER DOCUMENTS

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

PREPARATION OF BIDS

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

Note: My Documents space is only a repository given to the Bidders to ease the uploading process. If Bidder has uploaded his Documents in the My Documents space, this does not automatically ensure these Documents being part of the Technical Bid.

SUBMISSION OF BIDS

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

The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system-generated symmetric key. Further, this key is subjected to asymmetric encryption using buyers/bid openers' public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

7. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.

8. Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

9. The bid summary has to be printed and kept as an acknowledgment of the submission of the bid. This acknowledgment may be used as an entry pass for any bid opening meetings.

10. The off-line tender shall not be accepted and no request in this regard shall be entertained whatsoever.

11. All entries in the tender should be entered in online Technical & Commercial Formats without any ambiguity.

12. Any order resulting from this e-tender shall be governed by the terms and conditions mentioned therein.

13. No deviation to the technical and commercial terms & conditions are allowed.

14. The tender inviting authority has the right to cancel this e-tender or extend the due date of receipt of the bid(s).

ASSISTANCE TO BIDDERS

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

2) Any queries relating to the process of online bid submission or queries relating to CPP Portal, in general, may be directed to the 24x7 CPP Portal Helpdesk.

SECTION 1 B: INSTRUCTION TO BIDDER (ITB)

1. The bid should be submitted in two covers System-Technical Bid and Financial Bid online through portal <https://eprocure.gov.in/>:

1.1 Envelope No.1 – Technical Bid: The agencies should give details of their technical soundness and provide a list of customers of a previous supply of similar items to Universities, Institutes, or Government Departments/ Undertakings/ public sectors with contact details. The details of the Bidder/ profile should be furnished along with a copy of all related documents. This envelope should be uploaded online tender (<https://eprocure.gov.in/>) and digitally signed as “Envelope No. 1 – Technical Bid i.e. Checklist (Excel format).

1.2. Document to be scanned and submitted by uploading in the technical bid:

- a) The Bidder should possess a Licence certificate for the manufacture /supply of the item.
- b) List of Owner/partners of the firm and their contact numbers
- c) The Bidder should possess an Income-tax PAN Number.
- d) The Bidder should possess a valid GST registration number.
- e) Catalogue of the Product with detailed product specifications.
- f) List of Service Centres
- g) List of customers with contact details.
- h) The average annual turnover should not be less than 30% of the estimated cost put to tender/Tender for the job work. A copy of the Balance sheet, Profit & Loss A/c., Trade or Manufacturing A/c for the last 3 years should be enclosed
- i) Warranty Period Offered for the tendered item to be specified. If the Warranty period is not conforming to the schedule of requirements given in section 3 of the document, the bid is liable to be treated as non-responsive and rejected.
- j) The contract form given in section 5 needs to be submitted.
- k) EMD must be in the form of Bank Guarantee **Annexure-“C”** (Fixed Deposit Receipt/Insurance surety bonds/DD/e-Payment mode (through Credit/Debit cards/Net Banking). It will be valid for 180 days from the date of opening of the tender. In case of EMD payment made through E-Payment, UTR Number with details should be uploaded. The firm registered with MSME/NSIC as per MSME procurement policy order 2012 will be exempted from submission of EMD. Intended parties will have to give proof of registration along with their tender. EMD of the unsuccessful bidders shall be refunded without any interest at the earliest after finalization of the purchase of the concerned item.

i) The EMD will be returned to the BIDDERS(s) whose offer is not accepted by NITK within one month from the date of the placing of the purchase order(s) on the selected BIDDER(s). In the case of the BIDDER(s) whose offer is accepted the EMD will be returned on submission of Performance Security

in the form of Bank Guarantee (BG). However, if the return of EMD is delayed for any reason, no interest/penalty shall be payable to the Bidders.

ii) The successful BIDDER, on the award of contract/order, must send the contract/order acceptance in writing, within 15 days of award of contract/order failing which the EMD will be forfeited.

iii) The EMD shall be forfeited in case a successful BIDDER fails to furnish the Performance Security.

iv) Bidder should prepare the EMD as per the instructions specified in the tender document. The original EMD should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission as specified in the tender documents. The details of the BG/DD/FD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise, the uploaded bid will be rejected.

I) The bidder needs to comply with restrictions under rule No 144 (xi) of GFR (General Financial Rules) 2017 and the clause pertaining to Dept of Expenditure (DOE) Public Procurement Division Order (Public Procurement no 1,2 & 3 vide ref. F.No.6/18/2019-PPD dated 23.07.2020 and 24.07.2020). In this Connection Bidder has to submit Self Certification (as per Annexure A or B), depending on the status of the bidder.

The above documents should be furnished in the technical bid envelope.

2. Envelope No.2 – Financial bid: The agencies should submit their financial bid as per the (.xlsx) format is given in Section 4 of the Notice Inviting Tender in this cover. The rate should be quoted in figures and upload online bid. This envelope should upload online only as “Envelope No. 2 – Financial Bid”.

Both Envelope No. 1 and 2 should be uploaded through the online portal (<https://eprocure.gov.in/>).

3 The tender will be accepted only from the **manufacturers or its authorized supplier**.

4 The Institute **reserves the right to visit the factory** before or after the issue of supply order to satisfy itself regarding the quality of production. In case of any remarks /default noted, the Company will be debarred from competing for bids in our esteemed Institute for a period of one year from the date of occurring of such breach

5 **The Financial Bid shall be in the format of the Price Schedule given in Section 4. The Contract form as per the format is given in section 5 shall be submitted. The incomplete or conditional tender will be rejected.**

6 Details of the item to be carried out, approximate quantity and the specifications are mentioned in **“Section 3”** appended to this Notice Inviting Tender.

7 **The item to be used is strictly according to the specification and subject to test by the Institute/concerned authorities. It must be delivered and installed in good working condition.**

8 The Institute **reserves the right to cancel or reduce the quantity** included in the schedule of requirements at any time after acceptance of the tender with a notice. The Contractor/Supplier shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived

from the execution of the work/supply in full but he did not derive in consequence of the foreclosure of the whole or part of the works.

- 9 Performance Security of 3 % of the contract value in terms of Bank Guarantee by scheduled banks shall be given by the successful bidder for the total period of Warranty. The validity of the Performance Security must cover the warranty period plus two months.**
- 10 The validity of bids:** The rate quoted should be valid for a minimum of 90 days. No claim for escalation of the rate will be considered after opening the Tender. The bid validity date will start from the last date of bid submission (Including date corrigendum)
- 11 Bid Evaluation:** On the due date, the Technical bids will be opened and referred to the Purchase Committee which is duly constituted by the Director, NITK. The committee will go through the technical aspects of the tender and recommend shortlisted firms. The recommendation of the committee is final and binding on all the parties. The committee may visit the manufacturing site to assess the capabilities to manufacture the tendered items as per the specifications. In case of any remarks/default noted, the EMD will be forfeited even if pre-qualified.
- 12 Delivery Period:** The Delivery Period/Time shall be deemed to be the essence of the Contract and delivery must be completed not later than such date(s). If the Supplier does not perform its obligations within the Delivery Period/Date mentioned in the Contract, the same would constitute the breach of the Contract and the Institute shall have the right to cancel or withdraw the Contract for the unsupplied portion after the expiry of the original or extended delivery date or period stipulated in the Contract. Such cancellation of the contract on account of non - performance by the Supplier would entitle the Buyer to forfeit the EMD / Performance Security besides other actions such as debarment from the Institute as per GFR 2017.
- 13 Clarification of Tender Document:** A prospective bidder requiring any clarification of the Tender Document may communicate to the contact person given in this notice inviting tender. The contact person will respond to any request for clarification for the Tender Document received not later than 5 working days prior to the last date for the receipt of bids
- 14 Amendment of Tender document:** At any time prior to the last date for receipt of bids, Institute may for any reason, whether at its initiative or in response to a clarification requested by a prospective bidder, modify the Tender document by an amendment.
- 15 Institute may at its discretion extend the last date for the receipt of bids.**
- 16** The bids shall be written in the English language and any information printed in another language shall be accompanied by an English translation, in which case for the interpretation of the bid, the English translation shall govern.
- 17** The Institute reserves the right of accepting any bid other than the lowest or even rejecting all the bids. The decision of the Institute Purchase Committee is final in all matters of tender and purchase.
- 18** The bidder should give the following declaration while submitting the Tender.
- 19** Relaxation for Start-up, MSEs, Make in India will be as per GOI norms.

20 Any other details required may be obtained from the contact person (Buyer) given in the Notice Inviting Tender during office hours.

21 Estimated price put up in tender is inclusive of all.

22 **Abnormally quoted low bid will be liable for rejection as per the OM No.F.12/17/2019-PPD of Department of Expenditure, Ministry of Finance dated 6th February 2020.**

23.**Forfeiture of EMD/Performance Guarantee/Security Deposit:** If NITK Surathkal has disqualified the Bidder(s) from the tender process prior to the award of the Contract or terminate/determinate the Contractor has accrued the right to terminate/determinate the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to NITK Surathkal, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Security of the Bidders/Contractor.

DECLARATION

I/we have not tampered with/modified the tender forms in any manner. In case, if the same is found to be tampered/modified, I /we understand that my/our tender will be summarily rejected and full Earnest money deposit will be forfeited and I /we are/are liable to be banned from doing business with NITK, Surathkal and/or prosecuted.

Signature of the Bidder : _____

Name and Designation : _____

Business Address : _____

Place:

Seal of the Bidder's Firm

Date:

SECTION 2: CONDITIONS OF CONTRACT

1. The supplier should quote the rate for Door Delivery (FOR).
2. The Rate should be quoted in INR only.
3. No custom duty exemption certificate will be provided from the institute.
4. The rate quoted should be on a unit basis. Taxes and other charges should be quoted separately, duly considering exemptions if any.
5. The rate quoted should be inclusive of Testing, commissioning and installation of equipment and Training.
6. Payment: No advance payment will be made. Payment will be made only after the supply and installation of the item in good and satisfactory condition and receipt of performance security by the supplier.
7. Guarantee and Warranty period should be specified for the complete period conforming to section 3 of this tender document.
8. The period required for the supply and installation of the item should be specified conforming to section 3 of this tender document.
9. In case of dispute, the matter will be subject to Mangalore Jurisdiction only.
10. **Liquidated Damages:** Timely delivery is the essence of the contract and hence if the Supplier fails to deliver Goods within the original/extended delivery period(s) specified in the contract, the Institute will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, **@ 1% per week or part of the week of the delayed period** as pre-estimated damages not exceeding 5% of the contract value without any controversy/dispute of any sort whatsoever.

SECTION 3: SCHEDULE OF REQUIREMENTS, SPECIFICATIONS AND ALLIED DETAILS

[To be filled up by the Department / Center of NITK, Surathkal]

Item(s) Name to be procured : Intelligent water recycling for aquaculture ponds

Type (Equipment / Software / Furniture / Others) : Others

Brief Specifications of the Item(s) : **As per Annexure "D"**
(Attach Additional Sheet if necessary)

Quantity : 1 System

Any other details / requirement : No

Warranty Period required : 3 Years

Delivery Schedule expected
after release of Purchase order
(In Weeks) : 3 Weeks

EMD (2% of the estimated amount) : ₹ 9,800/-

Performance Security to be given
by Successful Bidder after release of
Purchase Order (in Rupees) : 3% of PO value

SECTION 4 - PRICE BID

[To be used by the bidder for submission of the bid]

Tender Inviting Authority:

Name of Work/Goods/Services:

Contract No:

Name of the Bidder/ Bidding Firm / Company :

PRICE SCHEDULE

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

Number	TEXT #	NUMBER #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER #	TEXT #
Sr. No.	Item Description	Quantity	BASIC RATE in Figures To be entered by the Bidder in Rs. P	Cost	GST rate in %	GST Amount	TOTAL AMOUNT With Taxes in Rs. P	TOTAL AMOUNT In Words
1								
2								
Total in Figures								
Quoted Rate in Words								

SECTION 5: CONTRACT FORM

[To be provided by the bidder in the business letterhead]

1. (Name of the Supplier's Firm) hereby abide to deliver them by the delivery schedule mentioned in section 3 tender document for the supply of the items if the purchase order is awarded.
2. The item will be supplied conforming to the specifications stated in the tender document without any defects and deviations.
3. Warranty will be given for the period mentioned in the tender document and service will be rendered to the satisfaction of NITK, Surathkal during this period.

Signature of the Bidder : _____

Name and Designation : _____

Business Address : _____

Place:

Seal of the Bidder's Firm

Date:

BANK GUARANTEE FORMAT FOR Performance Security

To,
Director,
National Institute of Technology Karnataka,
Srinivasnagar P.O., Surathkal
Mangalore – 575025

LETTER OF GUARANTEE

Whereas..... (name and address of the contractor) (hereinafter called “the contractor”) has undertaken, in pursuance of contract no date..... to supply (description of goods and Works/ Services) (hereinafter called “the contract”).

And Whereas you have stipulated it in the said contract that the contractor shall furnish you with a bank guarantee by a Commercial bank for the sum specified therein as security for compliance with its obligations as per the contract;

And Whereas we have agreed to give the contractor such a bank guarantee.

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

We hereby waive the necessity of your demanding the sail debt from the contractor before presenting us with demand.

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

This guarantee shall be valid until theday of20.....

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

(Signature of the authorized officer of the Bank)

.....

.....
Name and designation of the officer

.....

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

*Preferably at the headquarters of the authority competent to sanction the expenditure for the procurement of goods or at the concerned district headquarters or the state headquarters.

Annexure -'A'

**(Compliance to be submitted in the bidder's letterhead)
(as applicable)**

Sub: Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017

Item Name:	
Enquiry No.:	

We M/s. _____ (name of the bidder company) have read the clauses pertaining to the Department of Expenditure's (DoE) Public Procurement Division Order (Public procurement no 1,2 & 3 vide ref. F.No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020) regarding restrictions on procurement from a bidder of a country that shares a land border with India.

We hereby certify that **we are not from such a country** and eligible to be considered for this tender.

(Note: Non-compliance of above said GoI Order and its subsequent amendment, (if any), by any bidder(s) shall lead for commercial rejection of their bids by NITK)

For and behalf of _____ (Name of the bidder)

(Signature, date & seal of an authorized representative of the bidder)

Annexure –'B'

**(Compliance to be submitted in the bidder's letterhead)
(as applicable)**

Sub: Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017

Item Name:	
Enquiry No.:	

We M/s. _____ (name of the bidder company) have read the clauses pertaining to the Department of Expenditure's (DoE) Public Procurement Division Order (Public procurement no 1,2 & 3 vide ref. F.No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020) regarding restrictions on procurement from a bidder of a country which shares a land border with India.

We are from such a country which shares a land border with India & have been registered with the Competent Authority as specified in the above-said order. We hereby certify that we fulfill all requirements in this regard and are eligible to be considered.

Evidence of valid registration by the Competent Authority is attached.

(Note: Non-compliance of above said GoI Order and its subsequent amendment, (if any), by any bidder(s) shall lead for commercial rejection of their bids by NITK)

For and behalf of _____ (Name of the bidder)

(Signature, date & seal of an authorized representative of the bidder)

FORMAT FOR EARNEST MONEY DEPOSIT / BID BOND

(To be typed on Non-judicial stamp paper of value Indian Rupees One Hundred)

(TO BE ESTABLISHED THROUGH ANY OF THE NATIONAL BANKS (WHETHER SITUATED AT MANGALURU OR OUTSTATION) WITH A CLAUSE TO ENFORCE THE SAME ON THEIR LOCAL BRANCH AT MANGALURU OR ANY SCHEDULED BANK (OTHER THAN NATIONALISED BANK) SITUATED AT MANGALURU. BONDS ISSUED BY COOPERATIVE BANKS ARE NOT ACCEPTED)

LETTER OF GUARANTEE

To
Director,
National Institute of Technology Karnataka,
Srinivasnagar P.O., Surathkal
Mangaluru – 575025

IN ACCORDANCE WITH YOUR TENDER for the supply of, M/s..... (hereinafter called the "Bidder") having its Registered Office at, wish to participate in the said bid for the supply.....as an irrevocable Bank Guarantee against Earnest Money Deposit for an amount of Rs. (Rupees.....) valid up to **(180 days from the date of issue of Bank Guarantee)**, is required to be submitted by the bidder as a condition precedent for participating in the said bid, which amount is liable to be forfeited by the Purchaser on (1) the withdrawal or revision of the offer by the bidder within the validity period, (2) Non acceptance of the Letter of Intent/Purchase order by the Bidder when issued within the validity period, (3) failure to execute the contract as per contractual terms and condition within the contractual delivery period and (4) on the happening of any contingencies mentioned in the bid documents.

During the validity of this Bank Guarantee:

We,(Bank name) having the registered office at.....guarantee and undertake to pay immediately on first demand by NITK Surathkal, an amount of Rs..... (Rupees.....)without any reservation, protest, demur and recourse. Any such demand made by theNITK Surathkal shall be conclusive and recourse. Any such demand made by the purchaser shall be binding on the Bank irrespective of any dispute or difference raised by the Bidder.

The Guarantee shall be irrevocable and shall remain valid up to.....(180 days from the date of issue of Bank Guarantee) If any further extension is required, the same shall be extended to such required period on receiving instruction from the Bidder, on whose behalf the is Guarantee is issued.

Notwithstanding anything contained herein:

- * Our liability under this Bank Guarantee shall not exceed Rs..... (Rupees.....).
- * This Bank Guarantee shall be valid up to.....(date).
- * We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee Only and only if you serve upon us a written claim on or before(date).

This Bank further agrees that the claims if any, against this Bank Guarantee shall be enforceable at our branch office atsituated at(Address of local branch).

Yours truly,

Signature and seal of the guarantor: Name of Bank:

Address:

Date:

Instruction to Bank: Bank should note that on expiry of Bond Period, the Original Bond will not be returned to the Bank. The bank is requested to take appropriate necessary action on or after the expiry of the bond period

Detailed Technical Specifications

Specifications : INTELLIGENT WATER RECYCLING FOR AQUACULTURE PONDS

Aquaculture water recycling system requires a combination of intelligent -smart technologies and processes. Industry-grade pumps for circulating water and smart Mechanical and biological filters are needed to remove debris and maintain water quality. Water quality sensors (pH, temperature, ammonia, etc.) level sensors, and any other essential sensors are required for the system. Rugged AI-enabled microcontrollers with workstations for automation and data collection. The actuators like Valves or pumps are controlled by the microcontroller for automation. For communication wired/secured Wi-Fi modules can be used for remote monitoring and control through URL / Andriod - ios app. Plan the layout of the aquaculture system, considering the size and type of fish or aquatic organisms intended to cultivate is as given below. Depending on the size and type of the fish pond the placement of sensors, pumps, and other components needs to be shown by the vendor with good for construction drawing (GFD). For Circulation in the system install pumps to ensure proper circulation and aeration within the tank or pond and position the pumps to create a flow that prevents stagnation. The mechanical filtration system should be set up to remove solid waste. Integrate a biological filter for beneficial bacteria to break down ammonia and nitrites. Install water quality sensors at strategic points in the system. Connect sensors to the microcontroller for real-time monitoring. Programming the microcontroller to read data from sensors and make decisions based on predefined conditions. Implement automation for tasks like adjusting water flow, controlling temperature, and triggering alerts. Connect actuators to the microcontroller to control valves or pumps based on sensor data. Automate processes such as water replenishment, temperature regulation, or waste removal. Integrate a communication module for remote monitoring and control through a mobile app or web interface. Testing and Calibration the system in controlled conditions before introducing aquatic organisms. Calibration of the sensors and fine-tune the automation settings are required in the smart aquaculture water recycling system.

The maintenance of the system is based on regularly checking and cleaning the filters, inspect pumps, and monitor sensor performance. Make adjustments to the system based on the changing needs of the aquaculture environment. Continuously monitor system performance and optimize settings for improved efficiency. The source is the Aquaculture pond. The aquaculture pond receives raw water through an inlet, initiating a step-by-step treatment process. Initially, the water passes through a sand bed for primary filtration before entering an aeration tank. Here, air blowers infuse oxygen to facilitate biological processes during aeration. Following this, the aerated water transitions into a settling tank, where suspended solids settle down. Ultimately, the purified water is released back into the aquaculture pond, concluding the treatment cycle. The Process is Raw water is introduced into the aquaculture pond via an inlet, where it then undergoes a sequential treatment process. First, it flows through a sand bed for initial filtration, followed by passage into an aeration tank. Within the aeration tank, air blowers supply oxygen while the water undergoes aeration to promote biological processes. Subsequently, the aerated water proceeds to a settling tank, where suspended solids settle out. Finally, the treated water is discharged back into the aquaculture pond, completing the treatment cycle.

The responsibilities encompass the design, drafting, procurement, component supply, and supervision of the erection and commissioning for a with a capacity of **7KLD**. Detailed specifications for all components, including civil, mechanical, electrical, and instrumentation, are provided.

tentative/basic process units & types of equipments

Sand BED (Envone Scope) (1 no.). The Material of construction (MOC) is MSFRP and the Size can be 1.0m X 0.75 X 0.75m. AERATION TANK (1 no.) The Material of construction (MOC) is MSFRP and Size is 0.5KL. SETTLING TANK (1 no.). The Material of construction (MOC) is MSFRP and Size is 0.5KL. COLLECTION TANK (1 no.). The Material of construction (MOC) is PVC/RCC and Size is 1KL.

tentative/basic MECHANICAL EQUIPMENTS:

Air Blowers for Aeration Tank: (2No. (1W+1S)). Type is Twin Lobe Type. Capacity is 10 m³ /hr Material of Construction(MOC) is Cast Iron (CI) and Compressor/ Equivalent. Dosing System for Disinfection: Dosing Pump (1 No) Capacity is 5LPH and Type is Electronic Dosing Tank (1 No).

tentative/basic ELECTRICAL : Control Panel (1 No.) industry-grade smart Switches/Relays. Energy Meter is Inbuilt Internal & external industry-grade Cabling.

tentative / basic PIPINGS & VALVES : industry grade rugged Piping ; within Battery Limit; Material of construction(MOC) may be MS/UPVC/PVC. Valves should be Ball/Diaphragm/Gate and the Material of construction (MOC) is PVC/UPVC/SS. Fine bubble & Coarse Bubble diffusers, Material of construction(MOC) is may EPDM membranes.

any additional civil works, Electricity, area lighting & incoming cable to panel, consumables including chemicals, oil, etc., Labour during erection & commissioning, must be indicated in the quotation/ tender.

The total space required may be restricted to within 300 sqft

the vendor has the liberty to optimise the design / dimension/ process to yield best results

Others like foundations, Platforms, etc. will be kept ready based on the dimensions given by the vendor.

location: college of Fisheries, aquaculture farm, Managluru

warranty: 3 years

installation must be completed within a 3-week

For any technical clarifications, contact:

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