

Tender Notice

The Energy & Resources Institute (TERI)
6C, Darbari Seth Block,
India Habitat Centre, Lodhi Road, New Delhi – 110003

PART - 1

TERI invites Bids from Prospective Bidders through tendering for the supply and installation of a custom-designed algal photobioreactor at its Mumbai site, as per the details given in tender document.

SI No	Item	Tender No	Quantity Required	Fee of tender document	Earnest Money Deposit
1	Algal Photobioreactor	<u>TERI/MAT/2018–19/002</u>	1	Rs. 1000.00	Rs. 200000.00

The tender document is available at TERI's website <http://www.teriin.org/announcements> from 28th Nov 2018. Interested bidders may view, download the Bid document, seek clarification and submit their Bid up to the date and time mentioned in the table below:

S.No.	Milestone	Date and time (dd-mm-yyyy; hh:mm)
1	Release of Tender	28.11.2018
2	Last date for submission of written questions by bidders	10.12.2018; 1500 hrs
3	Response to the Queries by TERI	13.12.2018
4	Last date for Submission of technical bid and financial bid response	18.12.2018; 1100 hrs
5	Opening of technical bid Responses	18.12.2018; 1530 hrs
6	Declaration of Short listed Firms on the basis of Part A (technical bid) evaluation	To be informed later
7	Financial bid opening of only technically qualified bidders	To be informed later
8	Finalization of Vendor	Intimation to be given only to finalized

		vendor
9	Venue of opening of technical and financial bids	The Energy & Resources Institute, 6C, Darbari Seth Block, India Habitat Centre, Lodhi Road, New Delhi – 110003

The bidders need to submit the cost of Bid document fees and Earnest Money Deposit (EMD) as stated in the above table through Demand Draft as bid documents fees and bank guarantee as EMD in favour of TERI, payable at New Delhi. TERI reserves the right to reject any or all tenders without assigning any reason thereof. The decision of TERI will be final and binding.

(Head-Materials)

TERI

Covering Letter

FROM:

(Full name and address of the Bidder)

.....

.....

To:

Head-Materials,
The Energy and Resources Institute (TERI)
Darbari Seth Block, India Habitat Centre
Lodhi Road, New Delhi – 110003

Subject: Offer in response to tender specification No: **TERI/MAT/2018-19/002**

Sir, we hereby submit our offer in full compliance with terms & conditions of the above tender. The bid, duly signed on each page, is submitted along with our acceptance of all specifications as well as terms/ Conditions.

We confirm that, we have the capability to supply and installation of Algal Photobioreactor in the given time period (Supporting document in proof of capacity should be attached).

The tender is submitted in two separate envelopes named Part-A for Technical Bid & Part-B for Financial Bid only.

(Signature of Bidder)

With Seal

Checklist of Annexures

(The following information/documents are to be annexed and flagged by the Bidders along with the BID)

S No	Annexure No	Particulars	Yes/No, Flag No
	Annexure I (a)	Details of Tender document fees (Demand Draft no, date, amount and bank name)	
	Annexure I (b)	Details of Earnest money (Demand Draft no., Date, Amount and bank name)	
	Annexure II	Test Certificates & Reports for various components specified in technical bid	
	Annexure III	A copy of valid GST registration certificate	
	Annexure IV	Overall Average Annual Turnover of the Company/Firm/ Corporation in the latest last three financial years (A summarized sheet of turnover of last three Financial Years certified by registered CA) with and latest balance sheet	
	Annexure V	A summarized sheet of cumulative experience in similar field certified by registered CA	
	Annexure VI	Value of a “ Single Order ” of Rs. 20 lakhs or more executed by the Bidder (A copy of the order indicating its value and certificate indicating its successful execution)	
	Annexure VII	Bidder’s Test Certificate for Product System	
	Annexure VIII	Cumulative Experience* of the Bidder in executing contracts in similar filed (Installed & Commissioned) 1 or more 3 or more 5 or more	
	Annexure IX	The bidder’ ISO 9001 certification	
	Annexure X	The bidder’s ISO 14001 certification	
	Annexure XI	Cumulative Experience* of the Bidder in executing contracts (Installed & commissioned) of similar type, 33-67% of the tendered value	
	Annexure XII	The bidder’s complete list of service center operational at Mumbai with full address and contact details	
	Annexure XIII	Provide a list of clients and after sales service reports from at	

		least three reputed clients.	
	Annexure XIV	Others (i) An undertaking that on call repair/maintenance/warranty service would be provided within a reasonable timeframe (either by the party or in association. In case of association, please provide name and address of local party).	
	Annexure XV	Duly filled technical bid	

Please flag the annexure and write flag number in the box.

*Bidder's experience should be in supply and installation/commissioning (contracts executed, completed and handed over) of similar equipment

Note:

- Bids received without supporting documents for the various requirements mentioned in the tender document may be rejected.
- The tender document should be in proper spiral binding and all annexures and their flags shall be in proper order.

(Signature of Bidder)

With Seal

Particulars of Tender

1	Tender No	<u>TERI/MAT/2018-19/002</u>
2	Particulars of Work	Supply and installation of Algal Photobioreactor at Mumbai
3	Last date and time of submission of tender documents	18.12.2018; 1100 hrs
4	Period of validity of rates for acceptance	3 months from opening of financial bid
5	Date and Time of opening of tender (Technical bid)	18.12.2018; 1530 hrs
6	Date and Time of opening of tender (Financial bid)	TO be finalized
7	Venue of opening of technical and financial bids	The Energy & Resources Institute, 6C, Darbari Seth Block, India Habitat Centre, Lodhi Road, New Delhi – 110003

1. Bidders are advised to study the tender document carefully. Submission of Bid against this tender shall be deemed to have been done after careful study and examination of the procedures, terms and conditions of the tender document with full understanding of its implications.
2. The Bids will be opened in the presence of bidder's representatives, who choose to attend at the venue, date and time mentioned in the above table.

(Signature of Bidder with Seal)

General Particulars of the Bidder

S No	Name of Bidder	
	Postal Address	
	Mobile no.	
	Telephone, Telex, Fax No	
	E-mail	
	Web site	
	Name, designation and Mobile Phone No. of the representative of the Bidder to whom all references shall be made	
	Name and address of the Indian/foreign Collaboration if any	
	Have anything/extra other than price of items (as mentioned in price Schedule) been written in the price schedule.	
	Have the Bidder to pay arrears of income tax? If yes up to what amount?	
	Have the Bidder ever been debarred By any Govt. Deptt. / Undertaking/ Pvt Co for undertaking any work?	
	Monthly supply capacity (attach supporting document)	
	Details of offer (please mention number of pages and number of Drawings in the hard copy)	
	Reference of any other information attached by the tenderer (please Mention no. of pages & no. of drawings)	

(Signature of Bidder with Seal)

DECLARATION BY THE BIDDER

(Regarding Tender No. TERI/MAT/2018-19/002)

I/We _____ (hereinafter referred to as the Bidder) being desirous of tendering for the work under the above mentioned tender and having fully understood the nature of the work and having carefully noted all the terms and conditions, specifications etc. as mentioned in the tender document,

DO HEREBY DECLARE THAT

1. The Bidder is fully aware of all the requirements of the tender document and agrees with all provisions of the tender document.
2. The Bidder is capable of executing and completing the work as required in the tender.
3. The Bidder accepts all risks and responsibilities directly or indirectly connected with the performance of the tender.
4. The Bidder has no collusion with other Bidders, any employee of TERI or with any other person or firm in the preparation of the bid.
5. The Bidder has not been influenced by any statement or promises of TERI or any of its employees, but only by the tender document.
6. The Bidder is financially solvent and sound to execute the work.
7. The Bidder is sufficiently experienced and competent to perform the contract to the satisfaction of TERI.
8. The information and the statements submitted with the tender are true.
9. The Bidder is familiar with all general and special laws, acts, ordinances, rules and regulations of the Municipal, District, State and Central Government that may affect the work, its performance or personnel employed therein.
10. The Bidder has not been debarred / black listed on account of their past activity from similar type of work by TERI and or Government undertaking/ Department/ Any other private company.

11. This offer shall remain valid for acceptance for 3 months from the date of opening of financial bid of tender.

12. The Bidder gives the assurance to execute the tendered work as per specifications terms and conditions.

13. The Bidder confirms the capability to supply and installation of Algal Photobioreactor within the time schedule mentioned in the tender document.

(Signature of Bidder)

with SEAL

PART-2: INSTRUCTION TO BIDDERS

SECTION 1: THE TENDER DOCUMENT

1.1 CONTENTS OF TENDER DOCUMENT

1.1.1 The tender procedure and contract terms are prescribed in the tender documents. In addition to the tender notice, the Bidding documents include

PART-A

Part -1

1 Tender Notice

2 Covering Letter

3 Checklist of Annexures

4 Particulars of tender

5 General Particulars of Bidder

6 Declaration by Bidder

Part – 2: Instruction to Bidders

Section -1 Contents of tender document

Section -2 Eligibility condition

Section-3 Preparation of tender

Section-4 Submission of tender

Section -5 Tender opening and evaluation

Section-6 Procedure for Finalization of Bid

Part – 3: General Condition of Contract

Part – 4: Scope of Work & Technical specifications

Part – 5: Details of Warranty

Part – 6: Technical Bid

Part – B: Financial Bid

The Bidder is expected to examine all instructions, forms, terms and specifications as mentioned in the tender document. Failure to furnish all information required by the tender documents or submission of a bid not substantially responsive to the Bid Document in every respect will be at the Bidder's risk and is likely to result in out-right rejection of the tender

1.2 LOCAL CONDITIONS

It shall be imperative on each bidder to fully inform TERI of all local conditions and factors, which may have any effect on the execution of the works covered under these documents and

specifications. TERI shall not entertain any request for clarifications from the Bidder, regarding such local conditions.

Enquiries/clarifications may be sought by the Bidder as per the following:

Technical queries: Dr K Dheeban Chakravarthi

Email: dheeban.kannan@teri.res.in

Any other queries: Ms Trisha Sharma

Email: trisha.sharma@teri.res.in

1.3 AMENDMENT OF TENDER DOCUMENTS

At any time prior to the submission of the tender TERI may for any reason, whether at its own initiative or in response to a clarification requested by the Bidder, modify the tender documents by amendments. Such document shall be made available on websites:

All are requested to remain updated with the website. No separate reply/ intimation will be given elsewhere.

SECTION 2: ELIGIBILITY CONDITIONS

Eligibility Conditions for Bidders

1. Minimum Eligibility Conditions:

- (i) The Bidders should be

A Registered Manufacturing Company/Firm/ Corporation in India engaged in manufacturing or custom-fabrication of **outdoor algal growth systems** (Conforming to relevant National / International Standards)

OR

A Registered enterprise under State commercial tax department

- (ii) At least 1 outdoor algal growth system of size 5000 L or more should have been successfully supplied installed and commissioned.
- (iii) The bidder should have minimum three years of experience in executing contract of outdoor algal system (Installed and commissioned) in India.
- (iv) The Bidder should have valid GST registration certificate. A copy of this should be enclosed.
- (v) Overall Average Annual Turnover of the Company/Firm/ Corporation in the last three financial years (FY-2015-16, 2016-17 and 2017-18) should be at least Rs. 2 Crores (Two Crores (This must be the individual Company's turnover and not that of any group of Companies). (A summarized sheet of average turnover certified by registered CA should be compulsorily enclosed along with corresponding balance sheets.)
- (vi) Should not be under a declaration of corrupt and fraudulent practices. A Self- Declaration Certificate should be enclosed.
- (vii) Should give an undertaking for the supply of branded Machine and Equipment etc. from reputed companies

2. Other Eligibility Conditions

The “Financial bids” of only those bidders who qualify in “Minimum Eligibility Conditions” as above and score at least 60 Points in “technical evaluation” shall be opened. The “Points” for the “technical evaluation” shall be assigned as under:

S No	Criteria	Point
1	Cumulative Experience of the Bidder in executing contracts of outdoor algal growth system as mentioned in Minimum Eligibility Conditions (Installation & Commissioning of System) 1 year or more 3 years or more 5 years or more	5 10 15
2	Size of previously set up outdoor algal system(s) Outdoor algal growth system of size 5000 L or more Outdoor algal growth system of size 10,000 L or more Outdoor algal growth system of size 50,000 L or more	5 10 15
3	Type of previously set up outdoor algal system(s) Open pond or raceway pond Algal growth systems with more advanced or additional features in comparison to open pond or raceway pond	5 15
4	Value of a “Single Order” of algal growth system executed by the Bidder : Valued more than Rs. 20 Lakhs Valued more than Rs. 40 Lakhs Valued more than Rs. 60 Lakhs	5 10 15
5	Bidder’s cumulative experience in last 3 years in terms of the total number of outdoor algal growth systems 1 or more 3 or more	5 10
6	Prior experience in outdoor systems involving one or more of following features of the advertised custom-designed system <ul style="list-style-type: none"> • Water-type load bearing vertical panels of any kind • Solar angle-based tilting of water-type load system of any kind • Partially transparent-reflective sheets/layers 	5 pts each
7	Quality certificates The bidder has ISO 9001 certification	10
8	Capability of the bidder to provide warranty services: On call response within a week On call response within a day or two through local own/associate service centers	5 10

SECTION 3: PREPARATION OF TENDER

3.1 LANGUAGE OF BID AND MEASURE

3.1.1 The tender prepared by the Bidder and all correspondence and documents relating to the bid exchanged by the Bidder and TERI shall be written in the English provided that any printed literature furnished by the Bidder may be written in another language so long as accompanied by an English translation of its pertinent passages in which case, for purpose of interpretation units of measurement shall be MKS/SI system.

3.2 DOCUMENTS COMPRISING THE BID

3.2.1 The tender prepared by the Bidder shall comprise the following components:

(a) Covering letter as provided in tender document.

(b) General particulars of bidder, as provided in tender document.

(c) Declaration by The Bidder, as provided in tender document

(d) Documentary evidence establishing that the bidder is eligible to Tender and is qualified to perform the contract if its tender is accepted. Check list of Annexures as provided in tender document

(e) Tender document signed on each page, as a confirmation by the Bidder to accept all technical specifications/ commercial conditions along with all necessary enclosures/annexures.

(g) Duly filled technical bid format.

3.3 BID PRICE

3.3.1 The Bidder shall indicate prices on the appropriate financial bid schedule.

3.3.2 DUTIES AND TAXES

The price quoted should include all taxes and duties, custom duty, excise duty, service tax, sales tax, GST, local taxes, Trade Tax/VAT, Income Tax, Surcharge on income tax etc. if any. A Bidder shall be entirely responsible for all taxes, duties, license fees, etc. All taxes payable as per Government income tax & service tax norms will be payable by the Bidder. TDS will be deducted from the payment of the Bidder as per the prevalent laws and rules of Government of India and Government of Maharashtra in this regard.

3.4 BID CURRENCIES

3.4.1 Prices shall be quoted in Indian Rupees (INR) only

3.5 SECURITY DEPOSIT/ PERFORMANCE GUARANTEE:

3.5.1 The successful Bidders, who execute the agreement with TERI for the work, shall have to furnish a security amount equivalent to 5% of total value of the order in the form of Bank Guarantee valid for a period of 24 months from the date of execution of agreement. The bank guarantee may be issued by a nationalized bank Guarantee shall be in favour of "TERI". The aforesaid Bank Guarantee shall be furnished prior to the execution of agreement.

3.6 PERIOD OF VALIDITY OF TENDER

3.6.1 Validity of the offer should be 3 months from the date of opening of the financial bid of the tenders. Without this validity the tenders will be rejected.

3.6.2 In exceptional circumstances; the TERI will solicit the Bidder's consent to an extension of the period of validity. The request and the response there of, shall be made in writing. The contract performance security provided under clause 3.5.1 above shall also be suitably extended.

3.7 BID SECURITY (Earnest Money)

3.7.1 The bidder shall furnish, as part of its bid, bid security of Rs. 2.00 lakhs (two Lakh) in the form of Demand draft issued by a nationalized bank.

3.7.2 Any bid not secured with the tender fee and earnest money will be rejected by the TERI as nonresponsive.

3.7.3 No Interest shall be payable on the amount of earnest money and the same will be released, after the tenders have been decided, to those Bidders who fail to get the contract.

3.7.4 The tender security (earnest money) may be forfeited:

a) If a Tenderer withdraws its tender during the period of tender validity specified by the Bidder in the tender.

b) If the successful Bidder fails to sign the contract within stipulated period and submit necessary performance guarantee within 10 working days from the intimation of the contract.

3.7.5 EMD of successful bidder shall only be released after signing of agreement and submission of 5% Security bank guarantee.

3.8 FORMAT AND SIGNING OF TENDER

3.8.1 The bid must contain the name, residence and places of business of the persons making the tender and must be signed and sealed by the Bidder with his usual signature. The name and designations of all persons signing should be typed or printed below the signature.

3.8.2 Tender by corporation/ company must be signed with the legal name of the corporation/ company/firm by the 'President', Managing director or by the 'Secretary' or other designation or a person duly authorized.

3.8.3 The original copy of the tender shall be typed or written in indelible ink and shall be signed by the Bidder or a person duly authorized to bid and bidder to the contract. The letter of authorization shall be submitted along with power-of-attorney. All the pages of the bid shall be initialed by the person or persons signing the tender.

3.8.4 The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder in which case such corrections shall be initialed by the person or persons signing the tender.

(Signature of Bidder with seal)

SECTION: 4: SUBMISSION OF TENDER

- 4.1 Submission of tender: The bid shall be submitted as per the guidelines given in the tender document.
 - 4.1.1 The tender must be completed in all technical and commercial respect and should contain requisite certificate, drawings, informative literature etc. as required in the specification.
 - 4.1.2 Technical and commercial price bid as per format are to be submitted in two separate and sealed envelopes marked Part-I & Part-II.
 - 4.1.3 First sealed envelope (Part-I) should contain earnest money, technical specification, brochure literature, other documents required, etc. It should be super scribed with tender no. All parts of tender documents except financial bid duly signed should be submitted in the first envelope. Requisite earnest money, tender fees in the form of demand Draft should be attached.
 - 4.1.4 Second sealed envelope (Part-II) should contain financial bid only. It should be super scribed with Tender No and “Financial bid”. Anything in regard of financial condition, payment terms, rebate etc. mentioned in financial bid may make the tender invalid. Therefore, it is in the interest of the tenderer not to write anything extra in part-II except price.
- 4.2 EXPENSES OF AGREEMENT: A formal agreement for a period of 01 (one) year shall be entered into between TERI and the contractor/ bidder for the proper fulfillment of the contract. The expenses of completing and stamping of the agreement shall be paid by the successful bidder.
- 4.3 DEADLINE FOR SUBMISSION OF BIDS: Bids must be submitted by the tenderer by the date; time and to address specified in the tender notice/ tender documents.

Signature of Bidder with seal

SECTION 5: TENDER OPENING AND EVALUATION

5.1 OPENING OF TENDER

The procedure of opening of the tender shall be as under:

- 5.1.1 First part (part-A) submitted having tender specification and super scribed as “Technical Bid” shall be opened at the time and date mentioned in the tender notice by TERI’s representatives in the presence of Bidders, who choose to be present.
- 5.1.2 Second part (Part-B) containing Financial Bid shall be opened (after obtaining clarifications and establishing technical suitability of the offer) as per schedule. Second part of only those Bidders whose first part (part-A) was found to be technically suitable, shall be opened.

CLARIFICATION OF TENDER

- 5.2.1 To assist in the examination, evaluation and comparison of bids, TERI may at its discretion ask the bidder for a clarification of its bid. The request for clarification and the response shall be in Writing.
- 5.3 TERI reserves the right to interpret the Bid submitted by the Bidder in accordance with the provisions of this document and make its own judgment regarding the interpretation of the same. In this regard TERI shall have no liability towards any Bidder and no Bidder shall have any recourse to TERI with respect to the selection process. TERI shall evaluate the Bids using the evaluation process specified in this document or as amended, at its sole discretion. TERI’s decision in this regard shall be final and binding on the Bidders.

Signature of Bidder with seal

SECTION-6: Procedure for Finalization of BID

6.0 The Procedure for Finalization of BID would be as follows:

6.1 Finalization of BID:

First the Technical bids shall be opened and evaluated.

Then the price bid of technically qualified bidders shall be opened.

The lowest rate (i.e. L-1) shall be the party to be awarded the contract. However, TERI reserves the right to issue the order to another bidder if the technically qualified bidders can match the L-1 price.

6.2 Finalization of Empanelment:

First the Technical Bids shall be opened and evaluated.

Then the price bid of technically qualified parties shall be opened.

- The lowest rate (i.e. L-1) received (and in turn approved by the competent authority) would be the "Approved Rate".
- Training of the users and entrepreneurs/ operators will be arranged by the contractor/ bidder. TERI local team / federations will provide ground level support.
- After work order is placed for work, work should be executed within the time schedule stipulated in work order. In case of delay (for any reason other than due to Force Majeure conditions or any extension thereof granted by TERI) a penalty equal to 1.0% of the price of the unperformed services for each week (For the purposes of calculation of delay, part of week shall be treated as week) of delay until actual performance up to a maximum deduction of 10% of the delayed services.

6.3 If required TERI reserves the right to negotiate with (lowest) L-1 bidder before finalization of the tender.

6.4 TERI reserves the right to accept any bid and to reject any or all bids.

6.5 Notification of awarding the contract: Successful Bidder for contract shall be intimated in writing

6.6 CONTRACT

Before execution of the work, a contract agreement for execution of the work shall be signed by the Bidder with TERI within 15 days of communication from TERI. In case agreement is not executed within the stipulated time, earnest money will be forfeited.

(Signature of Bidder with Seal)

PART 3: GENERAL CONDITIONS OF CONTRACT

- 1.0 In the deed of contract unless the context otherwise requires:-
- 1.1 TERI shall short list the successful bidder (s) on “Rate Contract” basis after verifying their capacity (or may choose one party i.e. L1, to execute the order). The Project shall be executed by TERI. The successful bidder (s) shall have to sign the Contract with TERI.

DEFINITIONS:

- 1.2 “TERI” shall mean The Director General of TERI or his representative and shall also include its successors in interest and assignees. The “Contractor” shall mean (successful bidder) i.e. the person whose tender has been accepted by TERI and shall include his legal representatives and successors in interest.
- 1.3 The agreement shall be on turn-key basis. The work shall be completed within stipulated time from the date of placement of work order. However “TERI” may in case of urgency ask the bidder to complete the work earlier, with the mutual consent of the contractor/ bidder. In case the contractor/ bidder fails to execute the said work within stipulated time, “TERI” will be at liberty to get the work executed from the open market without calling any tender/ e-tender and without any notice to the contractor/ bidder, at the risk and cost of the contractor/ bidder. Any additional cost incurred by “TERI” shall be recovered from the contractor/ bidder. If the cost of executing the work as aforesaid shall exceed the balance due to the contractor/ bidder, and the contractor/ bidder fails to make good the additional cost, “TERI” may recover it from the contractor/ bidders’ pending claims against any work in “TERI” or in any lawful manner.
- 1.4 That on the request of the contractor/ bidder and also in the interest of the organization the “TERI” is authorized to extend the validity of the agreement, subject to that the request of the contractor/ bidder is received before the expiry of the agreement period, or any extended period granted to the contractor/ bidder. Maximum period of extension shall be 2 months on the same terms and conditions as contained in this agreement.
- 1.5 The agreement shall be deemed to be extended till the date of completion of last work order subject to the completion period as provided in the clause 1.3.
- 1.6 The contractor, (i.e. the successful bidder), should directly execute the work and is not allowed to execute through his dealers. It will be the sole responsibility of the contractor, to execute orders placed as per time schedule, and to ensure quality

parameters, specifications and other requirements provided in the tender document and as per agreement.

- 1.7 In the interest of the work and the programme, agreement executed between the contractor/ bidder and the "TERI" may be extended to a mutually agreed period, if the need so arises. It shall be sole responsibility of the contractor/ bidder to get verified the quality & quantity of the supplied material at the site of delivery.

2 LIQUIDATED DAMAGES

- 2.1 If the contractor/ bidder fails to perform the services within the time periods specified in the contract, the "TERI" shall without prejudice to its other remedies under the contract deduct from the contract price as liquidated damage, a sum equivalent to 1.0% of the price of the unperformed services for each week (For the purposes of calculation of delay, part of week shall be treated as week) of delay until actual performance up to a maximum deduction of 10% of the delayed services. Once the maximum is reached, the "TERI" may consider termination of the contract. In the case of violation of contract, TERI may confiscate pending payments/ dues of the contractor/ bidder assigning specific reasons and shall also have the power to debar/ blacklist the contractor/ bidder in similar circumstances. TERI may also invoke performance/security bank guarantee of 10%.

- 3 The contractor/ bidder shall have to comply with all the rules, regulations, laws and by-laws for the time being in force and the instructions if any, of the organization, in whose premises the work has to be done. "TERI" shall have no liability in this regard.

4 **FORCE MAJEURE**

- 4.1 Notwithstanding the provisions of clauses contained in this deed; the contractor/ bidder shall not be liable for forfeiture of its performance security, liquidated damages, termination for default, if he is unable to fulfill his obligation under this deed due to event of force majeure circumstances.
- 4.2 For purpose of this clause, "Force majeure" means an event beyond the control of the contractor/ bidder and not involving the contractor/ bidder's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of Government either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes

- 4.3 However, if a force majeure situation arises, the contractor/ bidder shall immediately notify the “TERI” in writing. The decision of the competent authority of TERI in above conditions shall be final.
- 5 The High court of Judicature at New Delhi and Courts subordinate thereto, shall alone have jurisdictions to the exclusion of all other courts.
- 6 The contractor/ bidder shall not, without the consent in writing of “TERI”, transfer, assign or sublet the work under the contract or any substantial part thereof to any other party.
- 7 “TERI” shall have at all reasonable time access to the works being carried out by the contractor/ bidder under the contract. All the work shall be carried out by the contractor/ bidder to the satisfaction of “TERI”.
- 8 If any question, dispute or difference what so ever shall arises between “TERI” and the contractor/ bidder, in the connection with the agreement except as to matters, the decisions for which have been specifically provided, either party may forthwith give to the other notice in writing of existence of such question, dispute or difference and the same shall be referred to the sole arbitration of the Director General, TERI or a person nominated by him. This reference shall be governed by the Indian Arbitration and Conciliation Act 1996, and the rules made there under. The award in such arbitration shall be final and binding on both the parties. Work under the agreement shall be continuing during the arbitration proceedings unless the “TERI” or the arbitrator directs otherwise.
- 9 “TERI” may at any time by notice in writing to the contractor/ bidder either stops the work all together or reduces or cut it down. If the work is stopped all together, the contractor/ bidder will only be paid for work done and expenses distinctly incurred by him as on preparation or the execution of the work up to the date on which such notice is received by him. Such expenses shall be assessed by “TERI”, whose decision shall be final and bidding on the contractor/ bidder. If the work is cut down, the contractor/ bidder will not be paid any compensation what so ever for the loss or profit which he might have made if he had been allowed to complete all the work included in the contract.
- 10 INSPECTION AND TESTS
- 10.1 The following inspection procedures and tests are required by the “TERI” in the presence of “TERI”'s representative if so desired by “TERI”.

10.2 The "TERI" or its representative shall have the right to inspect and / or to test the goods to confirm their conformity to the contract. The special conditions of contract and/ or the Technical specifications shall specify what inspections and test the "TERI" required.

10.3 INSPECTION AT WORKS.

10.3.1 The "TERI", his duly authorized representative shall have at all reasonable times access to the contractor/ bidders premises or works and shall have the power at all reasonable time to inspect and examine the materials and workmanship of the works during its manufacture.

10.3.2 The contractor/ bidder shall give the "TERI", 15 day's written notice of any material being ready for testing. It shall be mandatory that such notice should reach "TERI" within 30 days of placement of work order. Such tests shall be on the contractor/ bidder's accounts/ expenses except for the expenses of the inspector. "TERI" reserves the full rights, to waive off inspection of material.

10.3.3 The contractor/ bidder are required to get the entire lot of the ordered material inspected at one time, before the supply of the materials.

10.3.4 All arrangements for the inspection of materials will be done by bidder.

10.3.5 The inspection by "TERI" and issue of dispatch instruction there of shall in no way limit the liabilities and responsibilities of the contractor/ bidder in respect of the agreed quality assurance programme forming a part of the contract.

11. **WARRANTY**

11.1 The contractor/ bidder shall warrant as per standards for quality that anything to be furnished shall be new, free from all defects and faults in material, workmanship and manufacture, shall be of the highest grade and consistent with established and generally accepted standards for material of the type ordered, shall be in full conformity with the specifications, drawing or samples, if any and shall if operable, operate properly.

Nothing in clause 10 above shall in any way release the contractor/ bidder from any guarantee or other obligations under this contract.

11.2 **Performance of Equipment:** In addition to the warranty as already provided, the contractor/ bidder shall guarantee satisfactory performance of the equipment and shall be responsible for the period or up to the date specified in clause 11.3 hereof after the equipment has been accepted by the "TERI" to the extent for any defects that may

develop such defects shall be removed at his own cost when called upon to do so by the "TERI"

- 11.3 Supplier will do installation and commissioning of the instrument and training free of cost. We may require installation report.
- 11.4 Since the maintenance of the system may also be taken up by the contractor/ bidder after expiry of 01 year of warranty period if the end user/"TERI" so desires, the contractor/ bidder shall take up annual maintenance of the installed system.
- 11.5 The contractor/ bidder shall maintain the system under annual maintenance contract with the end user.
12. Notice statement and other communication send by "TERI" through registered post or telegram or fax or Email to the contractor/ bidder at his specified addresses shall be deemed to have been delivered to the contractor/ bidder.
13. Any work which is not covered under this contract but is essential required for the completion of job (To the satisfaction of TERI) shall be carried out by the contractor as extra item or which payment shall be made separately at the rates decided by TERI.
14. The work shall be carried out by the contractor/ bidder as per design and drawings approved by "TERI", wherever, necessary, the contractor/ bidder shall submit relevant designs and drawings for approval of "TERI", well in advance. Work carried out without "TERI"'s approval shall not be accepted and the "TERI" shall have right to get it removed and to recover the cost so incurred from the contractor/ bidder.
15. The contractor/ bidder shall provide one copy system pass book containing instruction manual/ routine maintenance manual and maintenance record of the systems with each unit supplied or installed, this shall be both in English and Hindi language. (The draft of pass book shall be approved by TERI)

The following minimum details must be provided with manual:

- (a) Operation procedure details (including range of permutations and limits) and system set up details (including materials of construction, specifications)
 - (b) Do's and Don'ts
 - (c) Clear instructions on regular maintenance and trouble shooting of the system
 - (d) Name & address of the contact person in case of non-functioning of the system
16. The contractor/ bidder shall not display the photographs of the work and not take advantage through publicity of the work without written permission of "TERI". The

contractor shall distribute and fix a calendar at site, showing instructions, Do's, Don'ts with the system. (The format of calendar should be approved by TERI).

17. PATENT RIGHT AND ROYALTIES.

The Contractor/ bidder shall indemnify the "TERI" against all third party claims of Infringement of patent, royalty's trademark or industrial design rights arising from use to the goods or any part thereof.

18. PACKING FORWARDING

18.1 Contractor/ bidders, wherever applicable, shall after proper painting, pack and crate all the equipment in such manner as to protect them from deterioration and damage during rail and road transportation to the site and storage at the site till time of installation. Contractor/ bidder shall be held responsible for all damage due to improper packing.

18.2 The contractor/ bidder shall inform the "TERI" of the date of each shipment from his works, and the expected date of arrival at the site for the information of the "TERI" project offices at least 7 days in advance.

19. DEMURRAGE WHARFAGE, ETC

All demurrage, wharfage and other expenses incurred due to delayed clearance of the material or any other reason shall be to the account of the contractor/ bidder.

20. INSURANCE

The goods supplied under the contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage during transportation shall be included in the bid price.

21. TRANSPORTATION

The contractor/ bidder is required under the contract to deliver the goods to the site. Road permit and entry taxes to be facilitated and arranged by the bidder.

22. TERMINATION FOR INSOLVENCY

"TERI" may at any time terminate the contract by giving written notice to the contractor/ bidder without compensation to the contractor/ bidder, if it becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or

affect any right of action or remedy, which has accrued or will accrue thereafter to the “TERI”.

23. TERMINATION FOR CONVENIENCE

The “TERI”, may by written notice sent to the contractor/ bidder, terminate the contract, in whole or in part at any time for its convenience. The notice of termination shall specify that termination is for the purchaser’s convenience in the interest of “TERI”.

24. APPLICABLE LAW

The contractor/ bidder shall be interpreted in accordance with the laws of the purchaser’s country i.e. India.

25. NOTICE

25.1 Any notice given by one party to the other pursuant to the contract shall be sent in writing or by Email and confirmed in writing to the address specified for that purpose in the special condition of contract.

25.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.

26. TAXES DUTIES AND INSURANCE:

The price quoted should include all taxes, duties and Insurance expenditure, custom duty, excise duty, service tax, sales tax, GST, local taxes, Trade Tax/VAT, Income Tax, Surcharge on income tax etc. if any. A supplier/ contractor/ bidder shall be entirely responsible for all taxes, duties, license fees, etc. All taxes payable as per Government income tax & service tax norms will be payable by the contractor/ bidder. If any new tax/duty is levied during the contract period the same will be borne by the contractor exclusively. TDS will be deducted from the payment of the contractor/ bidder as per the prevalent laws and rules of Government of India and Government of Bihar in this regard.

27. OTHERS:

27.1 The Contractor/ bidder in consultation with concerned Project Officer of “TERI” will conduct training programme for users, focusing on main features, operation and maintenance of the systems.

27.2 The Contractor/ bidder shall continue to provide spare parts after the expiry of warranty period at the users cost till the product life. If the contractor/ bidder fail to continue to

supply spare parts and services to users, "TERI" shall take appropriate action against the Contractor/ bidder.

- 27.4 After successful supply/commissioning of the system and training, the system will be handed over to the person designated by the TERI.
- 27.5 It shall be the sole responsibility of the contractor/ bidder to get verified the quality & quantity of the supplied material at the site of delivery.
- 27.6 List of firms will be prepared based on the compliance to all the terms and conditions of the tender. The tenders, who do not conform to the tender conditions and tenders from firms without adequate capabilities as per tender requirements shall be straight away rejected, without specifying any reason.
- 27.7 The installation of the systems shall be done at the risk and cost of the supplier.
- 27.8 If any of the materials supplied by the supplier become non operational / non functional due to which ever reason of due to any manufacturing or other technical defect during the contract, the same will have to be rectified or systems/parts replaced free of cost by the supplier.
- 27.9 The supplier will not be permitted to operate from any other premises other that from the one provided by TERI to the supplier for this purpose.
- 27.10 TERI will make the payment on the basis of certified Invoice and supporting document.
- 27.11 TERI shall not pay any higher costs over and above the agreed value of the contract, on account of any revision due to increase in duties, taxes and surcharges during the contact period.
- 27.12 No equipment shall be removed from the site by the supplier without the concurrence for the purpose of replacement, services etc.
- 27.13 TERI reserves the right to take over the Machine & Equipments and other infrastructure at the site set up by the Supplier in case of non-compliance of any of the conditions of the contract by the supplier during the contract period and recovers costs/liabilities arising due to such violations.

28. PAYMENTS:

The payments shall be made as per the following terms and conditions:

- (a) 30% advance against Bank guarantee of equivalent amount.
- (b) 40% payment against delivery of material as per purchase order, on site and subject to submission of documents as proof of delivery. If advance is not taken by the supplier, then 70% payment will be released against delivery of material.
- (c) 25% payment against installation and commissioning and subject to submission of documents as proof of completion
- (d) 5% payment after 1 year from the date of installation, given timely and satisfactory warranty coverage during the elapsed period and on submission of document.

- (e) All the payment shall be released from TERI head office, New Delhi on submission of requisite documents.
29. In case of any ambiguity in interpretation of any of the provisions of the tender, the decision of "TERI" shall be final.
 30. The tender shall be accompanied by registration document, income tax clearance certificate and details of similar works executed.
 31. The successful bidder has to sign a non-disclosure agreement for 3 years.
 32. Vendor shall undertake necessary civil works for the installation of the system at site.

(Signature of Bidder with Seal)

SCOPE OF WORK AND TECHNICAL SPECIFICATIONS

Objective:

To set up a 100,000 L marine algal photobioreactor-harvest system at Mumbai

Description:

The system would be a scale-up of an open algal photobioreactor system based on sunlight distribution already tested at 1800 L and 10,000 L sizes in Delhi NCR. The size of the system is 100,000 L. The system would be employed to grow and harvest marine microalgae in open outdoor conditions of Mumbai. It includes a horizontal growth region at the bottom and vertical panels at the top (See Figure 1). The horizontal bottom section includes channeled partitions (similar to raceway pond) with mixing of algal culture achieved by a paddlewheel powered by a motor. The top panels are spaced out from each other and continuous transfer and mixing of algal culture between top panels and bottom sections is achieved through pumps. A submersible pump may be employed to ensure the algal culture is well-mixed in the top panels. The system would include a layer of partially-reflective transparency at 45° to the panel surface for distribution of direct sunlight. The top panels would have the provision to be tilted toward the direction of the sun with seasonal changes. The system also includes a harvesting mechanism whereby a sweeper would be moved smoothly through a mechanical system to harvest the algae settled at the bottom (See Figure 2). The harvested algae accumulated at the sides of the system would then be removed.

Scope of the work:

Specifications and details of the system to be set up are as described below:

- A photobioreactor growth system to grow algae and a combined harvest system (Illustrated in Figure 1)
- Size: 100,000 L (15 m x 14 m x 1.8 m)
- Location: Navi Mumbai, Maharashtra
- Light source: Sunlight
- Temperature range to withstand: 10-50 deg C

- pH range: 3 to 12
- Open system
- Area: 200 square meters
- Content of the system: Algal culture (density: about 1.1 g/cc); algae in sea water or saline water (salinity: 0-350 ppt i.e. 0-35% wt/vv)
- Bottom horizontal reservoir: 15 m x 14 m x 0.4 m
- Vertical panels on top: 15 panels x 14 m X 1.2 m x 0.2 m (running east-west; with tilting feature, -10 to +40 degrees from its vertical position)
- Hut-like structure made of partially reflective-transparent material running between the panels (similar to window layers)
- Paddle wheel powered by motor (1-2 hp; 2-4 in no.s) for water circulation in bottom horizontal reservoir
- Pumps and motors of appropriate capacity for water circulation (bottom reservoir to top panels; mixing inside panels (submersible pump))
- A mechanism to harvest algae that are made to settle at the bottom must be incorporated. This would involve smooth sweeping of the bottom horizontal surface employing a rubber or brush contact surface with the floor. The movement of sweeping shall be fully mechanized. See Figure 2.
 - Slurry suction pumps (submersible) must be provided to draw harvested algal slurry swept to the sides in the algal production system.
- Materials must be scalable (acres in future) and low-cost for demonstration wherever possible
- Panel material should be UV-resistant and remain clear for longer period. Transparent PE, LDPE and PVC are possible options.
 - Vertical panel material and suspension design shall be modeled on this design below
 - <http://www.oilgae.com/algae/cult/pbr/typ/vc/vc.html>
 - Panel may need suitable support to hold the volume/weight of algal culture

- Transparency efficiency of panel material shall be more than 90%
- For reflective sheets, the flexible sheet alone could be considered without the base rigid sheet
 - Reflective sheet loss of efficiency (Incident light irradiance – (reflected irradiance + transparent penetration irradiance)) shall not be more than 15%
- Bottom horizontal reservoir should have removable partitions for water transfer and maintenance.
- Any civil work, on-site infrastructure construction, foundation preparation work that is part of the system (excluding land preparation, land leveling) shall be carried out by the Contractor himself (Contractor entity) or the Contractor can take the assistance of the end-user client (TERI) in carrying out the aforementioned work as per mutually pre-agreed terms and conditions as relevant.

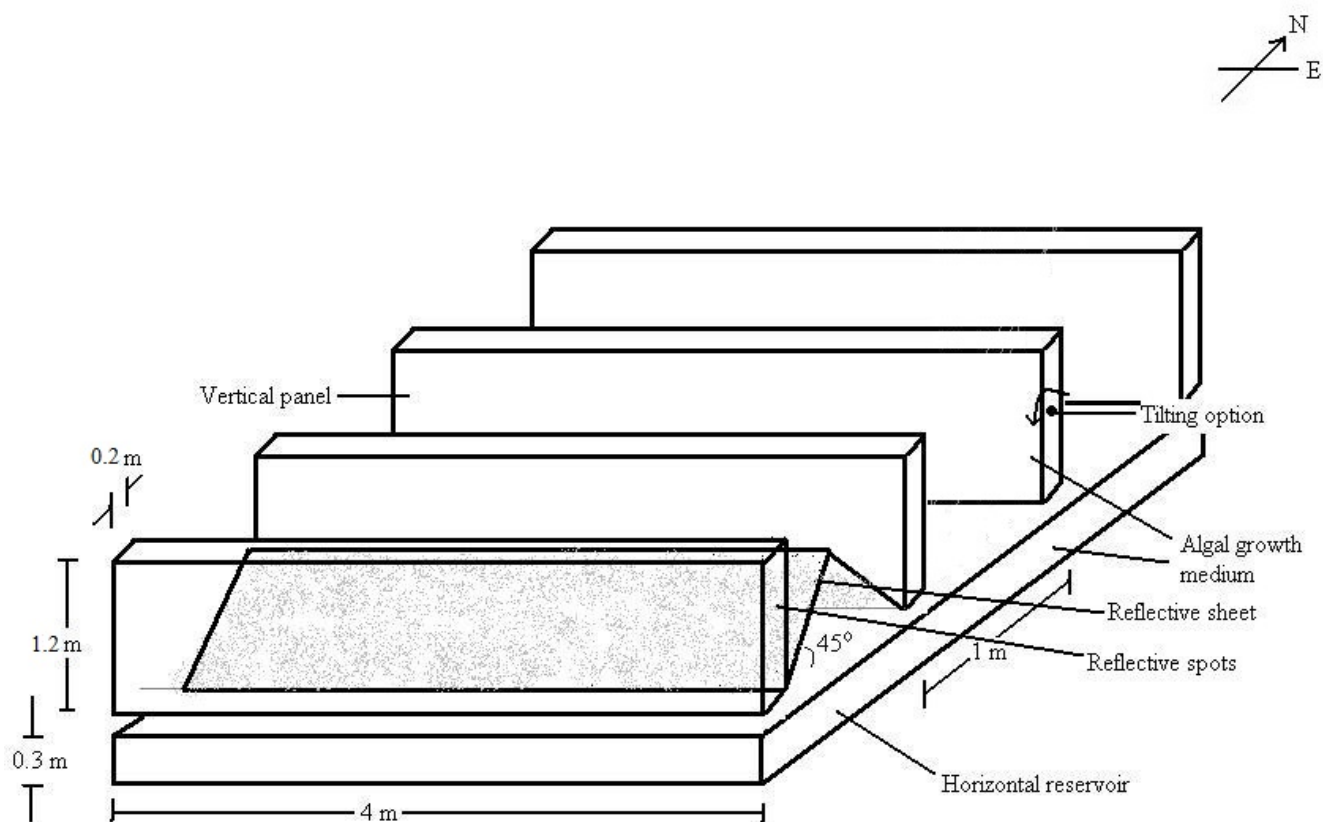


Figure 1. Representative photobioreactor segment (4 m x 3 m) out of total size (14 m x 14 m)

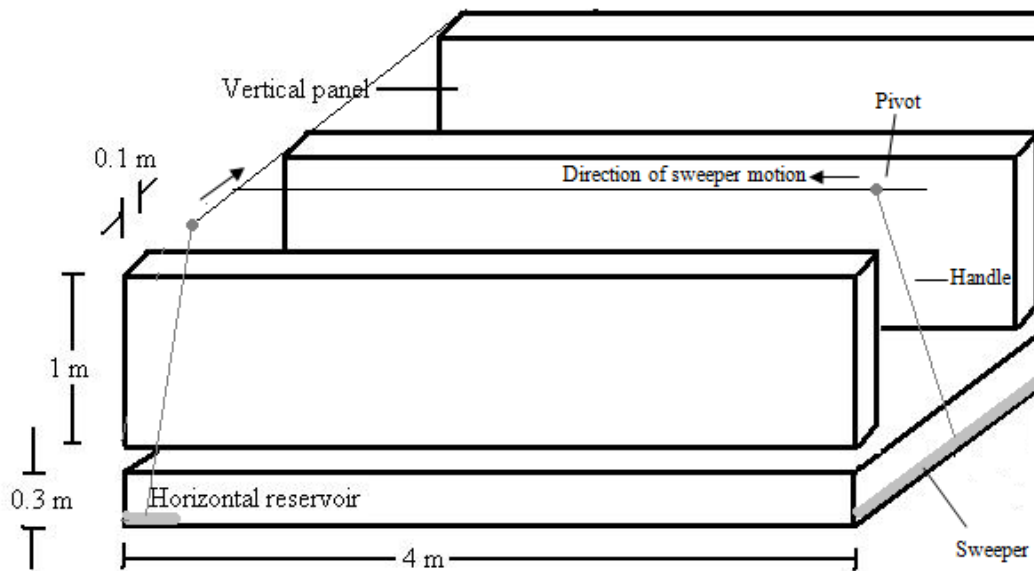


Figure 2. Harvest mechanism

Delivery and Commissioning

The materials of the system must be delivered and the system installed and commissioned within a period of 5 months from the date of issue of purchase order by TERI to the vendor. The materials must be delivered and the system installed at the Navi Mumbai, Maharashtra project site that would be specified by TERI.

The execution of the contract shall be completed within a period of 5 months from the date of order.

On-site Warranty

On-call on-site warrant service shall be provided within one week of intimation (or as agreed between the Contractor and TERI depending on type of service needed) through the Contractor or the Contractor's local associate.

Documents

Following documents need to be submitted to TERI for processing of payments:

- (a) Invoice against purchase order issued.

- (b) Proof of delivery at site (sign and stamp of person who has received and verified the materials)
- (c) Delivery challan(s)/ waybill
- (d) Local entry tax bill (if applicable)
- (e) The warranty certificate(s) for complete system (as per Purchase Order)
- (f) The manufacturer's test report for the system/its components
- (g) All reports should be stamped and signed by the authorized representative of the vendor.
- (h) Invoice of installation and commissioning as per purchase order.
- (i)** Minimum two (2) photographs (preferably dated) clearly showing the system.
- (j) All reports should be stamped and signed by the authorized representative of the vendor
- (k) Manual referred to in Part 3; Clause 15 for release of payment related to installation and commissioning of system

Technical Specifications for Algal Photobioreactor

Bill of Materials		
ITEMS		Description & Specification
Installation Accessories		
Product Warranty		
On-site service warranty		
Training		
Safety Precautions		
Documents		

PART-5

FINANCIAL BID

TENDER NO. TERI/MAT/2018-19/002

Name of the Firm: -----

Implementation (Algal Photobioreactor) of in the areas of Mumbai

S No	Item	HSN Code	GST	Unit Rate (in Rs)
1	Supply of complete set of System			
2	Installation and Commissioning			
3	Comprehensive maintenance charges for 5 years			
Total Amount (in figures and words)				

NOTES:

1. Certified that rates quoted above are as per the requirement, specification. terms & conditions mentioned in the tender document.
2. The rates are inclusive of all taxes & duties, storage, transportation up to site, insurance, etc. and any other job required to properly execute the work.

(Signature of Bidder With seal)

To be submitted in Part-II (B) in financial bid.

Other documents / conditions, terms if enclosed may lead to rejection of bid.

PART - 6

UNDERTAKING FOR QUOTED RATE

TENDER NO. TERI/MAT/2018-19/002

TO,
GM- Materials,
TERI,
New Delhi.

Sir,

Having examined the tender documents for _____ vide Bid Ref. No. _____ dtd. _____ we the undersigned, offer to quote the rates for supply, installation and commissioning of Machine and Equipments in Office/Institute as per the scope of work in the tender document in accordance with the terms and conditions. This rate is quoted in terms of total project cost inclusive of all Sale/GST tax, levies duties, charges for freight or manpower etc. We have understood the terms and conditions mentioned in the tender document inclusive of the condition that TERI will not pay any extra payment other than the quoted rate to the Supplier. The cost quoted is all inclusive (applicable taxes, duties and any other cost) for the entire project period (including warranty period of three years) and is valid for a period of 180 days from the last date of submission of the tender.

We understand that you are not bound to accept a lowest offer that you may receive.

Yours faithfully,

Place :

Signature :-

Date :

Name :-

Designation :-

Company Name:-

Company Seal:-