



G.B. Pant National Institute of Himalayan Environment (NIHE)

Kosi-Katarmal, Almora - 263 643, Uttarakhand

E-tender notice

No.-GBPNIHE/NMHS-Cold Laboratory/2021-22/11

E- tenders are invited on behalf of the Director, GBPNIHE, Kosi-Katarmal, Almora from eligible reputed and registered firms/suppliers/manufacturers for supply/ Installation of following equipment :-

Sr. No	Equipment/Item	Qty.
1.	Augmentation of Flux Tower	01 no

**A “Bid security declaration” (Annexure-V) be signed by the tenderer and enclosed with tender documents. If the firm withdraw or modify their bid during period of validity etc., they will be suspended for three financial years.** The tenderer will have to deposit tenderer fee of amounting to Rs 590.00 in form of Account payee Demand Draft from any of the Commercial Banks or payments online in Account name- GBPNIHE-GIA-General, Account Number- 3604013559, Bank & Branch-Central Bank of India Kosi Bazar, Almora, Branch Code- 01528, IFSC- CBIN0281528 in favour of G.B. Pant National Institute of Himalayan Environment” Payable at Almora. The offers, in the prescribed format, shall be submitted online at <https://moefcc.euniwizarde.com/> as per the tender document. No tender will be accepted in hard copy, fax, e-mail or any other such means. The intending, bidders must be registered with Public Procurement <https://moefcc.euniwizarde.com/> the tender document is also available on website: <https://moefcc.euniwizarde.com/> and CPP Portal <https://eprocure.gov.in/epublish/app>.

a.	Availability of tender document on CPP portal/ website : <a href="https://moefcc.euniwizarde.com/">https://moefcc.euniwizarde.com/</a>	XXXXXXXXXXXX
b.	Request Tender Document from date and time	25.11.2021 at 10.00 A.M
c.	Request Tender documents till date and time	15.12.2021 at 3.00 P.M
d.	Technical Bid online submission end date	15.12.2021 at 3.00 P.M
e.	Financial bid online submission end date.	15.12.2021 at 3.00 P.M
f.	Date and time for opening online technical bids	15.12.2021 at 3.30 P.M
g.	Date and time for opening online financial bids	15.12.2021 at 4.00 P.M
h.	Validity of tenders.	90 days
i.	Estimated Value of the Contract	XXXXXXXXXX
j.	Tender Fee	500.00 + 18%GST

Office Superintendent  
Email: store@gbpihed.nic.in



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G.B. Pant National Institute of Himalayan Environment (NIHE)  
Kosi-Katarmal, Almora - 263 643, Uttarakhand

No.- GBPNIHE/NMHS-Cold Laboratory/2021-22/11

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Kosi-Katarmal

Date:

Signature & Seal of  
Office Superintendent

## 1.0. GENERAL TERMS AND CONDITIONS

1.1. **Kindly ensure that the terms and conditions of the order no. P-45021/2/2017-PP (BE-II) dated 16<sup>th</sup> September 2020 of Ministry of Commerce and Industry, Department for Promotion of Industry and Internal Trade, Govt. of India regarding Public Procurement (Preference to Make in India), Order, 2017on fulfilled.**

1.2 This document contains the following:

- (i) Copy of the local competitive bidding notice
- (ii) General terms and conditions of bid
- (iii) Terms and conditions for submission of bid
- (iv) Payment terms
- (v) Settlement of dispute
- (vi) Application form
- (vii) Undertaking
- (viii) Bid form
- (ix) Detailed specification of the items and required quantity
- (x) Check list

1.3 The tender document is not transferable by the purchaser. The bid form available on website (Annexure – II) in original only is to be used for bidding. Bids must be submitted separately for each item or group of items for which separate tender forms need to be purchased. Bids made on Photocopy, *etc.*, will not be considered. However, the additional sheets containing the same proforma may be used. Each sheet including that provided by the Institute with this document must be signed by the bidder.

1.4 The Institute takes no responsibility for delay or non- receipt of Tender document sent by post either way and also reserves the right to accept or reject any or all the tenders in part or full without assigning any reason thereof.

1.5 No bid document will be sold after the last date of sale of tender document or between the extended period of opening date, if any.

1.6 The bidder is expected to examine all instructions, forms, terms and conditions and specifications mentioned in the bidding document. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding document in every respect will be at the bidder's risk and may result in the rejection of its bid.

1.7 This call of tenders does not bind the Institute to place order. The tenders submitted in response to this invitation can be rejected without assigning any reason.

1.8 The Institute at its discretion may extend the last date of submission of tender and opening of tenders. The final authority for acceptance of a tender will rest with the Director, G.B. Pant Institute of Himalayan Environment and Development, who does not bind himself to accept the lowest tender and is vested with the authority to reject any or all of the tenders received without assigning any reason.

1.9 Documents, literature, diagrams/leaflets, and samples *etc.*, enclosed in the tender shall become the property of the Institute without any payment.

1.10 The tender would be regarded as turned down, if no award of contract has been obtained till the expiry of the tender validity. No separate communication will be made in this regard.

- 1.11 The items have to be supplied in standard packaging.
- 1.12 In case of the date of opening of tender is declared as Public Holiday, the tender shall be opened on the next working day at the same time.
- 1.13 The bid shall contain no interlineations, erasures or overwriting words except as necessary to correct errors made by the bidder, in which case such correction shall be initialled by the person or persons signing the bid.
- 1.14 Late and delayed tenders shall not be considered and may be returned unopened to the bidder.
- 1.15 It is advised that the outside suppliers should send the tender through registered post. However, the local supplier may drop their tenders in the office of the Institute.
- 1.16 Canvassing in any form will disqualify the bid.
- 1.17 Request for the tender document for bidding through telegram, telephone, money order and telefax shall not be entertained.
- 1.18 The warranty period is twelve months starting from the date of successful commissioning of the instrument or installation of equipment, etc. Therefore, successful bidders have to deposit performance guarantee i.e 3% of the value of the item before issuance of supply order. Performance guarantee should be valid till 90 days beyond the expiry of warranty.**
- 1.19 The tender notice no.- GBPNIHE/NMHS-Cold Laboratory/2021-22/11 **Item code numbers (The item code number is given in the specification sheet)** must be invariably quoted in bid and further correspondence in this regard.

1.20 All the tenders should be addressed to:

The Director

**Attention:** The Office Superintendent (Store)

G.B. Pant National Institute of Himalayan Environment  
Kosi-Katarmal, Almora 263 643, Uttaranchal, India.

## 2.0 **Submission of Bid**

2.1 The bid prepared by the bidder and all correspondence and documents relating to the bid exchanged by the bidder and the purchaser, shall be written in English language, provided that any printed literature furnished by the Bidder may be written in another language so long as accompanied by English translation of its pertinent passages in such case, for purposes of interpretation of the bid English translation shall govern.

2.2 Bids must be made separately for each item or group of items for which separate tender forms need to be purchased. The bid must accompany Annexure - I with Techno Commercial part of Bid and Annexure - III along with "Price" part of the bid duly filled in and signed by the bidder along with the seal of the firm.

2.3 The bidders are requested to quote the rates item-wise and the total price of each instrument separately indicating the Government levies, transportation and other expenditure item-wise as FOR our Institute in case of LCB and FOB rates in the case of ICB.

2.4 Bidder can quote the rates for all the instruments or some of the instruments. The Institute reserves the right to accept the tender in full or in part.

2.5 The tender is to be submitted in “single stage – 2 bid system” (Technical and financial) *i.e.*, the first bid will contain full information required to judge pre-qualification, earnest money, complete details and specification of the instruments offered including the leaflets and catalogues, list of credentials with documentary evidence *i.e.*, purchase/work order *etc.*, Income Tax clearance certificates, sales tax registrations No., Affidavit for not being black listed, Commercial Terms and conditions, *etc.* It shall be marked “Prequalification’s, technical and commercial bid No.- GBPNIHE/NMHS-Cold Laboratory/2021-22/11.”

**2.6 A “Bid security declaration” (Annexure-V) will be signed by the tenderer and enclosed with tender documents. If the firm withdraw or modify their bid during period of validity etc, they will be suspended for three financial years.**

2.7 The validity of tender would be for a minimum period of 90 days from the date of opening of tenders. A bid valid for a shorter period may be rejected by the Institute as non responsive. In exceptional cases the Institute solicit the bidder’s consent to an extension on the period of validity and the bid shall remain valid for the extended period mutually agreed for.

2.8 The rates should be quoted both in words and figures.

2.9 Arithmetical error will be rectified on the following basis: -

If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is discrepancy between words and figures, the amount in words will prevail.

2.10 Tenders not in proper sealed cover or received telegraphically or by fax will not be entertained.

2.11 Conditional tenders will be rejected without assigning any reason.

2.12 The bid shall be typed or written in indelible ink and shall be signed by the bidder or a person duly authorized to the contract. The letter of authorization should bear the signatures of only the authorized person of the firm. All pages of the bid, except for unamended printed literature shall be initialed by the person or persons signing the bid.

2.13 To assist in the examination, evaluation and comparison of bids the buyer may, at its discretion, ask the bidder for a clarification of its bid. However, no change in the price or substance of the bid shall be sought, offered, re-permitted.

2.14 Eventual suggestions for modification or subsidiary tenders are principally not admissible.

2.15 The specification are clearly mentioned in the document and the bidders are requested to submit bid only if their offer strictly comply to these specifications. Please note that no deviation in the required specification will be permitted. The bidding for the instruments having different specification will be on bidder’s risk as the Institute will not entertain such bids. BIDS CARRING THE STATEMENT LIKE “SPECIFICATION AS PER TENDER DOCUMENT” SHALL NOT BE ENTERTAINED. THE PRODUCT SPECIFICATIONS SUPPORTED BY TECHNICAL LITERATURE AND LIST OF USERS, MUST BE ENCLOSED.

2.16 The placement of work order/purchase order will be according to technical evaluation of the tender and after consideration of its price worthiness.

2.17 The price to be given in the tender are fixed prices, irrespective of rise in materials prices and increase in taxes etc., till the delivery of the overall consignment. No request in regard to increase in the price of instruments or in taxes etc., will be entertained after the submission of the tender.

2.18 The nomenclature of the Instruments and spares will be invariably same in proforma invoice, invoice, packing list and in other relevant papers in case the bidder is asked to supply the instruments against his offer.

2.19 With the submission of his tender the bidder accepts the conditions of the tender.

2.20 If the Instrument/item, *etc.*, supplied is of specifications other than asked for in the supply order(s) it will have to be replaced at their risk and cost. No freight and other charges for export and re-shipment will be paid by the Institute.

2.21 The installation of the instrument(s)/items, *etc.*, is the entire responsibility of the supplier. It must be done either by the principal/supplier or their authorised agents within one month of the receipt of the instruments by the Institute. The supplier of agent should be in touch with the Administrative Officer of the Institute to know the exact day of receipt of stores supplied/dispatched by them.

**2.22 The list of instruments/items, their approximate quantity and their detailed specifications are given at Annexure - IV of this document. The augmentation of the meteorological mast to be carried out at GBPNIHE, Kosi-Katarmal, campus for testing. Subsequently, The vendor needs to provide installation and maintenance support for the flux tower to be installed at a High Altitude site in a glaciated valley of Uttarakhand state, India at GBPNIHE, Kosi Katarmal Almora.**

2.23 Each and every folio of the tender must be signed by the bidder.

2.24 Bidder can quote the rates for all the instruments or some of the instruments. The bid shall be considered only for those instruments for which the rates have been specifically quoted. The Institute further reserves the right to accept the tender for all the instruments or some of the instruments for which the tenderer has quoted the bid.

2.25 The instrument for which tenders are invited will have to be supplied within 30 days for LCB and 90 days for ICB from the date of issue of supply order. In case of non-observance of delivery period of supply not in accordance with the supply order the supplier has to pay default compensation at the rate of 0.5 per cent of the total value of order per concluded week of the default, but not exceeding 5 per cent of the total value of orders.

2.26 The after sales services is most important to be considered for comparison bids from firms who do not have Indian agents to provide after sales service & service during warranty period, will not be entertained.

2.27 In the case of imported instruments, the quotations from principals, will only be considered. The quotations if any received from Indian Agents on behalf of their principals, will not be considered. The agency commission will be paid in Indian Rupees. Therefore, the charges on account of agency commission should be clearly mentioned. In the case of indigenous instrument price should be quoted on FOR Institute basis and in the case of imported instruments the price should be quoted on FOB basis.

2.28 The foreign bidders must indicate the following information in their proforma invoice.

a) Country of Origin

- b) Post of shipment
- c) Name & address of beneficiaries Bank with Account No.
- d) Minimum delivery period
- e) Whether transshipment/part shipment is required or not
- f) Agency commission, if any, payable to the Indian Agent

2.29 The items have to be supplied in standard packing. The foreign supplier should use the minimum possible packets and should reduce the size of the packing in volume to avoid extra demurrage in the bonded warehouse in India, if any.

2.30 In case of Foreign suppliers, they will have to ensure shipment of the consignment as per the validity of the Letter of Credit established in this regard. In case of extension of supply date is sought, the bank charges towards the amendment of L.C. will be borne by the beneficiary/supplier.

2.31 If the instrument supplied is found defective/unsatisfactory condition/short supply/other than specifications in the Purchase order(s), the same will have to be replaced at the suppliers risk & cost. No freight & other charges for export & reshipment will be paid by the Institute.

2.32 Foreign principals/their authorized Indian agent shall intimate the buyer regarding the shipment well in advance.

2.33 At any time prior to the deadline for submission of bids the buyer may for any reason whether at its own initiative or in response to a clarification requested by a prospective bidder modify the bidding document by an amendment.

2.34 The amendment if any, will be brought to the notice in writing or by email/website to all concerned bidders who have received the bidding documents and will be binding on them.

2.35 In order to afford prospective bidder reasonable time in which to take the amendment into account in preparing their bids, the buyer may at its discretion, extend the deadline for the submission of bids.

2.36 The prices must be quoted item wise *i.e.*, basic price, taxes, packing, forwarding, handling and transportation charges, insurance, installation charges, *etc.* The charges must be quoted clearly and not in vague terms like "As Actual," "Approx," *etc.*

2.37 If according to the bidder, the tendered documents contain certain unclear points which could influence price calculations, the bidder has to inform the authority who is issuing the call of tenders before submission of his tender, either in writing or by email/website, even if he has pointed out this earlier in any other form/reference.

2.38 The packing, forwarding, insurance and transportation charges must be quoted according to the place of delivery. The supplier will be held liable for any damage, theft or loss during transit. The instruments are to be dispatched to the respective places directly and to be installed there by the supplier under intimation to the G.B. Pant National Institute of Himalayan Environment at Kosi-Katarmal, Almora.

2.39 The delivery of stores in case of foreign supply shall be taken at New Delhi. The price indicated should be on FOB basis. Please note that proforma invoice must be separate for each instrument/item.



2.40 Provision for customs duty exemption will be made by the Institute.

#### 2.41 **MOST IMPORTANT**

PLEASE NOTE THAT ANNEXURE - I OF THIS DOCUMENT MUST BE ENCLOSED WITH THE FIRST PART OF BID *i.e.*, "TECHNICAL AND COMMERCIAL BID" AND ANNEXURE - II, III AND IV WILL BE KEPT IN THE SECOND PART OF BID *i.e.*, "PRICE BID"

2.42 PLEASE NOTE THAT THERE IS NO NEED TO ENCLOSE THE ENTIRE TENDER DOCUMENT (SUPPLIED BY THE INSTITUTE) WITH YOUR BID. ONLY ANNEXURE - I, II AND III NEED TO BE ENCLOSED AS PER INSTRUCTION STIPULATED IN PARA 2.45 AND OTHER RELEVANT PARAGRAPHS OF THIS BID.

2.43 **Non- fulfilment of this condition of executing a contract by the Contractor or Suppliers would constitute sufficient ground for annulment of the award and forfeiture of Earnest Money Deposit.**

### 3. **PAYMENT CONDITIONS**

3.1 Payment, 100% shall be released only after satisfactory installation of equipment. No advance payment shall be allowed in any case. The defective, substandard and contrary to the specifications of instruments/furniture's/items supplied have to be replaced by the supplier at their cost and responsibility. In the case of International Competitive Bidding, payment will be made by opening a Letter of Credit.

3.2 In case several bills are presented, against one order, the reference of supply order and other details should be mentioned in each and every bill.

### 4.0 **SETTLEMENT OF DISPUTE, ARBITRATION**

4.1 All disputes or difference arising out of or in connection with the contract and supply of any item/equipment assigned under the same (whether during the progress of the works or after their completion, determination, abandonment or breach of the contract) shall be referred to a team of three member arbitrators appointed by the Director, G. B. Pant Institute of Himalayan Environment. The arbitrators shall elect an umpire among them. In case of conflicting findings by the arbitrators the decision of the umpire shall be final and binding. It will not be an objection to any such appointment that the arbitrators are the Government servants and had any interest in the Institute or the contract entered into directly or indirectly. In all cases, the arbitrator shall state their decision in writing if, amount of claim in dispute is Rs. 50, 000/- and above, subject as aforesaid the provision of the Arbitration Act, 1940 or any statutory modification or re-enactment thereof and the rules made the tender and for the time being in force shall apply to the arbitration proceedings under this clause.

4.2 It is a term of the contract that the party invoking the arbitration shall specify the dispute or disputes to be referred to the arbitration under this clause together with the amount or amount claimed in respect of each such dispute.

4.3 It is also a term of the contract that if the supplier(s) do not make any demand for arbitration in respect of any claim(s) or dispute in writing within 90 days of submission of the final bill for payment, the claim of the supplier will be deemed to have been waived and absolutely barred and the Institute will be discharged and released of all liabilities under the contract in respect of these claims.

4.4 The courts at Almora shall have exclusive jurisdiction to entertain and try all matters arising out of this contract.

## 5.0 **FORCE MAJEURE**

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

## 6. INSTRUCTIONS TO BIDDERS

This part provides brief overview of the main tendering related provisions of various policies of the Govt. of India (those related to MSEs, Make in India, Start Up India, DPIIT guidelines etc. Bidders are encouraged in their own interest to go through the original policy documents issued by concerned ministries / departments as these are revised from time to time. For the purpose of tender evaluation and deciding eligibility / ineligibility of bidder's offer, interpretation will be based on the current provisions in the original document of the concerned policy.

### **Eligibility of Bidders**

A. Bidders must have sales tax and income tax registration. Copy of PAN Card and GST/ Sales Tax Registration should accompany the quotation. Bidder must have the required facilities/expertise to supply, installation of the necessary items for which the bid is submitted.

B. It is the policy of the Government of India to encourage 'Make in India' and promote manufacturing and production of goods and services in India with a view to enhancing income and employment, therefore, in this tender preference will be given to local supplier to promote 'make in India'.

C. Bidders must comply with Make in India Order No. P-45021/2/2017-PP (BE-II) dated 16th September 2020 of Ministry of Commerce and Industry, Government of India (GoI) and any amendments thereon.

D. Only 'Class I local supplier' and 'Class-II local supplier' as defined under the DPIIT Order No. P- 45021/2/2017-PP (BE-II) dated 16th September 2020 are eligible to bid in this tender.

**Local Content** means the amount of value added in India which shall unless otherwise prescribed by the Ministry of New and Renewable Energy (MNRE), GoI, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

**'Class-I Local Supplier'** means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%, as defined in DPIIT Order No. P- 45021/2/2017-PP (BE-II) dated 16th September 2020.

**'Class-II Local Supplier'** means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined in DPIIT Order No. P-45021/2/2017-PP (BE-II) dated 16th September 2020.

**The 'Class-I Local Supplier'/ 'Class-II Local Supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I Local Supplier'/ 'Class-II Local Supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.**

**Purchase Preference:**

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class I local supplier', the contract will be awarded to L1.
- ii. If L1 is not 'Class I local supplier', the lowest bidder among the 'Class I local supplier', will be invited to match the L1 price subject to Class I local supplier's quoted price falling within the margin of 'purchase preference', and the contract shall be awarded to such 'Class I local supplier' subject to matching the L1 price.
- iii. In case such lowest eligible 'Class I local supplier' fails to match the L1 price, the 'Class I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class I local supplier' within the margin of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.
- iv. **Margin of purchase preference:** the margin of purchase preference shall be 20%.

For the purpose of purchase preference, Make in India Order No. no. P-45021/2/2017-PP (BE-II) dated 16th September 2020 of Ministry of Commerce and Industry, Government of India (GoI) and any amendments thereon will be followed.

## ANNEXURE I

### APPLICATION FORM

(To be filled by the bidder)

- 1) Name and full address of the bidder including telegraphic address/fax no.
- 2) Name and designation of the head of the Firm/supplier and his telephone/fax no.
- 3) (I) In case the supplier is located of the country his contact address/authorized distributor's or agent's address in the Country, if any  
  
(ii) Name, designation, address, telephone numbers of the authorized person who may be contacted during the process of the purchase concerned under this document (applicable for all suppliers)
- 4) **Bid security declaration Submitted** Yes/No
- 5) If yes, demand draft no., date and name of issuing bank
- 6) Validity of tender
- 7) If the tender conditions are accepted in full (reply in yes or no)
- 8) Income tax clearance certificate attached (latest) (reply in yes or no)

Place  
Date

Legally binding  
Signatures with stamp

**Annexure - II**  
**Details showing quantity, specification and other details of the items offered**  
**(To be filled by the bidder and must be kept in “price bid” part of the tender)**

Item code. As per our documents	Name of the item	Specification offered by the bidder	Difference in specification of tender document and that of bid, if any	Quantity required	Unit rate	Terms and other expenditure & insurance and freight (in case of foreign bid)	Total amount
1	2	3	4	5	6	7	8
	1. Augmentation of Flux Tower			01 no			

Note: If this sheet is not sufficient to accommodate the bid additional sheets containing the same proforma may be used. But all such sheets, including this one must be signed by the bidder along with the seal. In case of foreign bidder this Annexure must be enclosed in the proforma invoice, instrument/item-wise.

**ANNEXURE III  
UNDERTAKING**

To  
The Director  
G.B. Pant National Institute of Himalayan Environment  
(Ministry of Environment, Forest and climate change, Government of India)  
Kosi-Katarmal, Almora 263 643, Uttarakhand, India.

Date:

Sir,

Having examined the conditions of tender document and specifications of the various items, the receipt of which is hereby acknowledged. We the undersigned offer to supply, delivery and install the following:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

(Please add additional pages, if required)

The above supply, installation shall be in conformity with the specifications and conditions of supply of a sum of Rs. (US \$ )

We undertake if our bid is accepted to deliver the items quoted by us, we shall deliver and install within a period indicated by us in our offer.

We agree to abide by this bid for a period of 90 days from the date fixed for bid opening and it shall remain binding upon us and may be accepted at any time before expiration of that period.

We are submitting a demand draft for Rs. /US \$  
in favour of G.B. Pant National Institute of Himalayan Environment payable at Almora towards earnest money.

This bid, together with your written acceptance thereof in your notification of award shall constitute a bidding contract between us.

We understood that you are not bound to accept the lowest or any bid you may receive.

Dated this                      day of                      2021

Signature of authorized person  
Name with stamp and full  
address

## **CHECK LIST FOR THE BIDDER**

- 1) Bid on original tender form only.
- 2) Earnest money or necessary documentary proof for exemption of earnest money with the part I of the bid.
- 3) Price bid must be Part II of the bid in the form provided at Annexure II of the tender document
- 4) The basic price, taxes, packing, forwarding, handling, transportation, insurance, installation charges, *etc.* must be quoted clearly. Do not use vague terms like “as actual, approximately, *etc.*”
- 5) Do not use the terms “as per specification of tender documents” in respect of instruments. There should be proper write up of product(s) quoted for supported with printed leaflets, literature, *etc.*

## **Augmentation of flux tower**

### **1.Scope:**

- Scope is for augmenting a meteorological mast with supply and installation of an Eddy Flux monitoring system to be mounted on a mast at 2 - 3 m height with warranty and technical support.
- The augmented mast with Eddy Flux monitoring system to be installed by the supplier at a High Altitude site in a glaciated valley of Uttarakhand state, India.
- The system should be able to monitor carbon dioxide (CO<sub>2</sub>) and water vapor (H<sub>2</sub>O) fluxes with a 3D sonic anemometer and a suitable high-speed open path sensor with slow sensor system for biometeorological measurements for monitoring Surface Energy and/ radiation and/ carbon and water flux.
- The augmentation of the meteorological mast to be carried out at GBPNiHE, Kosi-Katarmal, campus for testing. Subsequently, The vendor needs to provide installation and maintenance support for the flux tower to be installed at a High Altitude site in a glaciated valley of Uttarakhand state, India.

### **2.Qualification Criteria:**

- Bidder firm shall have adequate experience in this field for carrying out this work efficiently and bidding firm shall have broad understating of research and oriented goals and shall be willing to make advancements of these systems in the future without fail. A declaration letter is required for this criterion.
- Manufacturer's authorization certificates for all the major components shall be submitted along with the technical bid and OEMs shall provide tender specific manufacturer's authorization certificate for the third-party products they are bidding in this tender.
- Vendors claiming other makes of products of their own make and producing the technical catalogue on behalf of original manufacturer shall be liable to the rejection.
- Experience credentials like purchase orders copies, completion certificates etc. shall be enclosed in the technical bid.

### **3.Technical Specifications:**

#### ***3.1 Open Path CO<sub>2</sub> and H<sub>2</sub>O Gas Analyzer and sonic anemometer:***

- The high frequency open path CO<sub>2</sub> and H<sub>2</sub>O gas analyzer system could be a standalone system coupled with a 3-D sonic anemometer or two individual systems of an open path CO<sub>2</sub> and H<sub>2</sub>O Gas Analyzer and a 3-D sonic anemometer. The vendor should provide Make and Model number of the analyzer and anemometer as applicable.



- The system should be supplied with all the necessary accessories such as, gas analysis sensor head, digital signal interface, software, carrying case, mounting kits, user manual, flux module, eddy covariance processing software, 5-meter data cable, Ethernet etc. Along with a suitable data logger, the system should be accessible with a Windows PC software.
- Operating temperature range for the system: -20° to +50°C
- Measurement rate: greater or equal to 60 Hz with user / software selectable output options of 5, 10, 20 Hz or similar.
- Auxiliary Inputs: air temperature with Thermistor or suitable device having accuracy of 0.5 °C or better; and barometric pressure with accuracy of 2.0 kPa or better.
- The system should work with Solar Power supply of 12 to 30 VDC with maximum power consumption should be less than 100 W @ 25 °C. Adeq note solar panel & batteries with cables to be supplied. The system should work in temp below - 10°C.

#### 3.1.1 Specifications: CO<sub>2</sub> Measurements:

- Calibration Range: 0 to 1000 μmol mol<sup>-1</sup> or better
- Accuracy within 1% of reading or max. precision RMS 0.2 mg/m<sup>3</sup> or better

#### 3.1.2 Specifications: H<sub>2</sub>O Measurements:

- Calibration Range: 0 to 75 mmol mol<sup>-1</sup> or better
- Accuracy within 1% of reading or max. precision RMS 0.004 g/m<sup>3</sup> or better

#### 3.1.3 Specifications: 3-D sonic anemometer

- The anemometer should provide vector output of U, V, W wind components at a user selectable output options of 5, 10, 20 Hz or similar.
- Wind speed measurement range: 0-40 m/s or better
- Wind direction measurement range: 0-360°
- Sonic temperature measurements are also to be provided.
- In case of standalone sonic anemometer, additional cables, mounting kits etc. to be provided.

#### 3.1.4 Flux calculating system and Data logging:

- The system should be supplied with appropriate data logger having sufficient digital and analogue channels so that the below mentioned slow sensors are also to be fitted with it along with gas analyzer and sonic anemometer. The data logger should have enclosure, rechargeable battery with appropriate solar charging system and solar panel for uninterrupted power supply and Charge Controller with necessary suitable cable, Installation Kits, Software and User Manual, etc.
- Keeping in view of the colder location of the flux tower site, vendors may provide additional power supplies for heating the system.
- The system to be an autonomous system to collect and store data from the Gas Analyzer, 3D Sonic Anemometer and other slow sensors at a user defined time interval.
- The data logger should store 10 Hz raw data from the gas analyzer and sonic anemometer. Further, the Eddy Covariance raw data to be automatically processed at the research site using eddy covariance processing software for producing 30 min

average files. Fully corrected fluxes of sensible heat, latent heat, evapotranspiration, CO<sub>2</sub>, H<sub>2</sub>O flux, wind stats, temperature, etc. at the site in real time to be produced.

- Time synchronization to be implemented to prevent clock drift and keeps instrument clocks in sync within and across sites.
- Automatic data download to USB Drive or to PC via hard wire connection in the field. Analyser Interface should be able to transfer data from the USB drive to a computer using the Ethernet connection, either manually or automatic at scheduled times.

### **3.2 Slow Sensor System:**

#### *3.2.1 Air temperature sensor*

- Range: -20 Deg C to +50 Deg C or better

#### *3.2.2 Relative humidity sensor*

- Range: 0 to 100 %

#### *3.2.3 Soil moisture, temperature, and EC sensor*

- Soil temperature range: -20 Deg C to +50 Deg C or better
- Soil volumetric water content range: 0 to 100%
- Soil EC range: 0 to 2000  $\mu$ S/cm or better

#### *3.2.4 Soil heat flux sensor*

- Heat flux range: -1000 to +1000 W/m<sup>2</sup>

#### *3.2.5 All weather weighing type precipitation guage with heating ring*

- Should be able to measure solid, liquid and phase precipitation
- Measuring Range: 0-50 mm/min
- Wind protection shield made of stainless steel shall be provided with heating.

#### *3.2.6 Four Component Net Radiation Sensor*

- Spectral range (50% points): 0.3 to 2.8  $\mu$ m = 300 to 2800 (short wave) nm
- Spectral range (50% points): 4.5 to 42  $\mu$ m = 4500 to 42000 (long wave) nm
- Operating temperature: -40 to +70 °C
- Power supply: 12 VDC, 1.25 A (with heater on)

### **4. Mounting & Enclosures**

- A 3-meter foldable and easy to hand transport triangular mast shall be supplied with the system for the mounting of sensors and power supply.
- Adequate earthing arrangement, separate for structure and electronics shall be provided with the system.
- Cables and mounting as desired for the installation of the system, shall be provided.
- All the cables shall be covered in the metal and plastic combined flexible conduit pipe to avoid any damages to the cables for long term operations of the system.
- IP65 rated weatherproof enclosures separate for batteries and Data Logging system shall be provided with the system.

“Bid Security Declaration”

I ....., Authorized Signatory of M/s..... hereby declare that if I withdraw or modify our bid during period of validity etc. My firm will be suspended for the time specified in the tender documents.



### Instructions for Online Bid Submission:

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

More information useful for submitting online bids on the e-tender Portal may be obtained at: <https://moefcc.euniwizarde.com/>

### REGISTRATION :

1. Bidders are required to enroll on the e-Procurement Portal (URL: <https://moefcc.euniwizarde.com/>) with clicking on the link "Online bidder Registration" on the e-tender Portal by paying the Registration fee of Rs. 2360/- per year charge.
2. As part of the enrolment process, the bidders will be required to choose a unique user name and assign a password for their accounts.
3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication with the bidder.
4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Only Class III Certificates with signing + encryption key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / 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.
7. The scanned copies of all original documents should be uploaded on portal.

### SEARCHING FOR TENDER DOCUMENTS

There are various search options built in the e-tender Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Item/work id, Title, Date, etc. Once the bidders had selected the tenders in which they are interested, bidder can pay the processing fee Rs.3000-/- excluding GST@18%(NOT REFUNDABLE) by net-banking / Debit / Credit card then you may download the required documents / tender schedules, Bid documents etc. Once you pay both fee, tenders will be moved to the respective "Register" Tab. This would enable the e-tender Portal to intimate the bidders through e-mail in case there is any corrigendum issued to the tender document.

Please feel free to contact ITI Helpdesk (as given below) for any query related to e-tendering.

1. Helpdesk landline No: 011-49606060
2. Mr. Amrendra Kumar (8448288980)