	/ भारतीय अंतरि भारतीय	क्ष अनुसंधान संगठन । सदर संवेदन संस्थान ।	Govt. of India, Dept. of Space ndian Space Research Organisation ndian Institute of Remote Sensing 1, Kalidas Road, Dehradun-248001				
		, 40 - 2	Ittarakhand	govin			
उत्तराखण्ड OffataMand दूरभाष/Ph. : 0135-2524318/4317, फैक्स/Fax: 0135-2748041, ई-मेल/E-mail : pns@iirs.gc							
गारत के	निविदा आमत्रण सूचना/Notice निर्णालिखत के लिए दो भागों में मोहरबंद बोलीया आमंत्रित राष्ट्रपति की ओर से भारतीय सुदूर संवेदन संस्थान, देहरादून द्वारा निम्नलिखित के लिए दो भागों में मोहरबंद बोलीया आमंत्रित						
ही जाती	है।	of President of India, Indian Institute of Remote Sensing, Dehradun invites Two Part seale					
In beh	behalf of President of India, Indian Institute of Remote Sensing, Senadari Martes						
ender	for the followings.	विव	रण/Description	मात्रा/			
	निविदा सं./Tender			Qty.			
/SI. No.	No.	and the second second second		15 121			
1.	01	दूरामात स सुस्लात स्वयातित विवरण निविदा दस्तावेज वे Automatic Weather	त दूरमिति के साथ इनसैट उपग्रह आधारित मैसरम स्टेशन की पूर्ति व संस्थापन। (विशेष 5 अनुसार)/Supply & Installation of Station (AWS) with GSM/CDMA ith compatibility INSAT Satellite tailed Specifications as per Tender	15 Set			
		Documents) इनसेंट उपयाह आधारित यूरमिति के साथ जीएसएम/सीडीएमए आधारित ०5 दूरमिति से सुसंगत खवालित मौसम स्टेशन की पूर्ति व संस्थापन। (विशेष 05 विवरण निविदा दस्तावेज के अनुसार)/Supply & Installation of Automatic Weather Station (AWS) with INSAT Satellite based telemetry with Compatibility for GSM/CDMA based telemetry. (Detailed Specifications as per Tender					
2.	GIRS2014000177- मॉनिटर सहित डेस्कटॉप पर्सनल कप्यूटरों की पूर्ति। (विशेष विवर वस्तावेज के अनुसार)/Desktop Personal Computer Monitor. (Detailed Specifications as per Tender Docu मॉनिटर रहित डेस्कटॉप पर्सनल कप्यूटरों की पूर्ति। (विशेष विवर बस्तावेज के अनुसार)/Desktop Personal Computers w Monitor. (Detailed Specifications as per Tender Docu			49 Nos 1 46 राख्या/ 46 Nos			
3.	GIER2014000180 01	0- हिमाचल प्रदेश की पालमपुर साइट पर भेवर सहप्रसरण प्रणाली क संस्थापन, प्रवर्तन, संवेदनों का एकीकरण तथा क्रियाशीलन। (विशेष विवरण निविदा दस्तावेज के अनुसार)/Eddy Covariance System with Installation, Commissioning, Integration of Sensors and Operationalization at Palampur site in Himachal Pradesh (Detailed Specifications as per Tender Documents)					
	Tander Foo		रू. 227/- प्रत्येक निविदा हेतु/Each Tender	A Case			
निविदा प्रारूप जारी करने की अंतिम तिथि/Last date for			22.09.2014, 11:00 बजे तक/upto 11:00 Hrs				
I I I I I I I I I I I I I I I I I I I			23.09.2014, 13:00 बजे तक/upto 13:00 Hrs				
Receipt of Tender तकनीकी बोलिया खोलने की तिथि/Date of opening of Techno-commercial Bids			23.09.2014, 14:30, 15:30 एवं 16:30 बजे क्रमशः 14:30, 15:30 & 16:30 hrs respectively.				
লিবি ফ. ww जो Ter of De 22	दा प्रपन्न किसी भी अनुसूचित 227/- का डी.डी. जमा कर /w.lirs.gov.in से डाउनलो वेतन एवं लेखा अधिकारी. अ Ider forms can be pui Re. 227/- in the form	न बैंक से देहरादून में भुणतान या के क्रय एवं भेडार अनुभाग, आइ ड कर सकते है। यदि निविदा दस्त गई.आई.आर.एस., देहरांदून के प richased from purchase of DD drawn in favour	ज्य, वेतन एवं लेखा अधिकारी, आईं.आई.आर.एस. 1 5.आई.आर.एस. से किसी भी कार्याविवस में प्राप्त कर 11वेज वेबसाइट से डाउनलोड किया जया है, तो रू. 22 181 में देव हो, बोली के साथ अवश्य संतर्जन करें। Stores Section, IIRS on all working days of Pay & Accounts officer, IIRS Dehradur ov.in. When tender forms are downloader os Bayche at Dehradur shall be attached	के पक्ष म ज सकते हैं अब 27/- का डी. on payme h payable d DD for			

Cladas UNIDIZUI (HINDI) Dated: 20/08/14 (WEDNESDAY)

JNDIAN EXPRESS (ENGLISH) DATED: 20/08/14 (GEDNESDAY)

GOVERNMENT OF INDIA DEPARTMENT OF SPACE INDIAN INSTITUTE OF REMOTE SENSING IIRS DEHRADUN **PURCHASE & STORES**

Date : 26/08/2014

INVITATION TO TENDER

M/s

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Our Ref No : GIER 2014-000180-01 Tender Due: 13:00 Hrs ISTon 23/09/2014 Opening: 16:30 Hrs ISTon 23/09/2014

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Dear Sirs,

Please submit your sealed quotation, in the Tender Form enclosed here along with the descriptive catalogues /

pamphlets /literature ,superscribed with Our Ref.No. and Due Date for the supply of the following items as per

the terms & conditions mentioned in Annexure(Form No:

S.No.	Description of Items with Specifications	Unit	Quantity
1	Eddy Covariance system with Installation Commissioning, Integration of Sensors and Operationalization at Palampur site in Himachal Pradesh (Specifications as per annexure enclosed)	SET,	1

IIRS **DELIVERY AT:**

MODE OF DESPATCH DOOR DLVRY

DUTY EXEMPTIONS

SPECIAL INSTRUCTIONS NIL

SPECIFIC TERMS

NOTE :

- (1) General & Technical specifications as per - Annexure - I
- Special Term & Conditions Annexure II (2)
- (3) Technical Terms & Condition – Annexure – III
- General Terms & Condition Annexure IV (4)

V.V. NARAYANAN KUTTY PURS. & STORES OFFICER For and on behalf of the President of India The Purchaser

GOVERNMENT OF INDIA DEPARTMENT OF SPACE INDIAN INSTITUTE OF REMOTE SENSING IIRS DEHRADUN PURCHASE & STORES

INDENTNO 2014000180 DESCRIPTION EDDY COVARIANCE SYSTEM

Eddy Covariance System with Installation Commissioning, Integration of Sensors and Operationalization at Palampur site in Himachal Pradesh

Specifications of Eddy Covariance System includes

1-IRGASON (single unit) instrument comprising Infrared Gas Analyzer (IRGA) for fast measurements of CO2 and H2O fluxes and Sonic Anemometer for 3D wind Speed and direction. Ite should also include air temperature and Barometric Pressure Sensors.

2-CNR4 four component radiometer (One No.)

3-Self-calibrating heat flux plate (two No.)

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4-Li-COR quantum PAR sensor-cosine corrected (two Nos-mounteed UP & Down)

5-Air Temperature & Humidity Sensor (One No.)

6-Soil Moisture & Temperature Sensors (3 Nos.)

7-Tipping Bucket rain-gauge sensor (one No)

8-CR-3000 data-logger (one No.) with full support to all fast and slow-response sensors mentioned above. All sensors (fast & slow response sensors mentioned above) shall be compatible to CR-3000 data logger

9-Power Supply: Solar Panel and Batteries (24 V 120 AHP) with mounting rod & sockets

10-Mounting tripod (3-4 metre) with mounting arms, sockets, cables, nut-bolts and other accessories for integrating and commissioning all sensors

Purchase & Stores Officer, IIRS

PURCHASE DEPARTMENT

NO.IIRS/P&S/GIRS-2014-000180-01/ PT-04/14-15

Date: 19.08.2014

General & technical specifications of sensors

1. IRGASON (single unit) instrument

Integrated (single unit) instrument which includes •Infrared Gas Analyzer (IRGA) for fast measurements of CO2 and H2O fluxes and •Sonic Anemometer for 3D wind speed and direction •should also include air temperature and barometric pressure sensors General Specifications •Operating Temperature Range: - 30° to +50°C •Calibrated Pressure Range: 70 to 106 kPa •Input Voltage Range: 10 to 16 Vdc •Power @ 25°C: 5 W (steady state and power up).

•Measurement Rate: 100 Hz •Output Bandwidth: user programmable •Output Options: SDM, RS-485, USB, analog •Auxiliary Inputs: air temperature and pressure •Weight of Head and Cables: 2.8 kg oEC100 Electronics: 3.2 kg •Cable Length: 35 meters

i) IRGA (CO2 analyzer) specifications

CO2 Precision RMS (maximum): 0.2 mg/m3 (0.15 μmol/mol) •Calibrated Range: 0 to 1000 μmol/mol •Zero Drift with Temperature (maximum): ±0.55 mg/m3/°C (±0.3 μmol/mol/°C) •Gain Drift with Temperature (maximum): ±0.1% of reading/°C •Cross Sensitivity (maximum): ±1.1 x 10-4 mol CO2 /mol H2O H2O •Precision RMS (maximum): 0.004 g/m3 (0.006 mmol/mol). •Calibrated Range: 0 mmol/mol to 37°C dew point •Zero Drift with Temperature (maximum): ±0.3% of reading/°C •Cross Sensitivity (maximum): ±0.1 mol H2O/mol CO2

ii)Sonic Anemometer Specifications

•Measurement Path oVertical: 10.0 cm (3.9 in.) oHorizontal: 5.8 cm (2.3 in.) •Transducer Diameter: 0.64 cm (0.25 in.) •Accuracy oOffset Error ux, uy: <±8.0 cm s-1 uz: <±4.0 cm s-1 •Gain Error oWind Vector within ±5° of horizontal: <±2% of reading o Wind Vector within ±10° of horizontal: <±3% of reading oWind Vector within ±20° of horizontal: <±6% of reading •Measurement Precision RMS oux, uy: 1 mm s-1 ouz: 0.5 mm s-1 Sonic Temperature: 0.025°C

iii) Barometer & temperature sensor Specifications

• Total Accuracy: ±1.5 kPa (-30° to + 50°C) • Measurement rate:1-10 Hz Ambient Temperature Specifications • Total Accuracy: ±0.15°C (-30° to +50°C)

2. CNR4 four component radiometer

• Four-component net radiometer should come with an integrated ventilation unit and heater to facilitate a clean air flow over all four of the radiometer domes and windows and to operate under all weather conditions. Number of signal outputs: 4 - incoming and reflected short-wave radiation downward and upward and downward long-wave radiation. Pyrgeometer temperature sensors: 10 K thermistor and Pt-100Response time (95 %): < 18 sNon-linearity (over full range): < 1 % Temperature dependence of sensitivity: < 5 % from -10 °C to +40 °CSensitivity: 7 to 20 iV/W/m² short-wave 5 to 10 iV/W/m² long-waveOperating temperature: -40 °C to +80°C

3. Self-calibrating heat flux plate

•Self-calibrating soil heat flux sensor for high accuracy measurement of soil heat flux and should include film heater for online calibration to automatically correct for variations in thermal conductivity of sensor and soil Specifications

HEAT FLUX SENSOR SPECIFICATIONS • Sensitivity (nominal): 50 µV/ Wm2 • Resistance (nominal): 2 Ω •Temperature range: -30 to +70 °C •Expected accuracy: +/- 3% FILM HEATER PECIFICATIONS • Resistanc e (nominal): 100 & #8486; • Voltage input/output: 9-15 VDC/0-2VDC • Duration of calibration: ± 3 min at 1.5 Watt, typically every 3 or 6 hours • Average power consumption: 0.02 or 0.04 WattCABLE LENGTH •100 feet / ~33 meter, with -PT option.

4. Li-COR quantum PAR sensor-cosine corrected (two Nos- mounted UP & down)

Line Quantum Sensor - Cosine Corrected - for measuring PAR within a plant canopy. • Absolute Calibration: ± 5% traceable to the National Institute of Standards and Technology (NIST). • Sensitivity: Typical 5µA per 1000 µmol s-1 m- 2. •Linearity: Maximum deviation of 1% up to 10,000 µmol s-1 m-2. • Stability: Typically < \pm 2% change over a 1 year period. • Response Time: 10 µs. • Temperature Dependence: 0.15% per °C maximum. •Cosine Correction: Cosine corrected up to 80° angle of incidence. •Azimuth: < ± 1% error over 360° at 45° elevation. •Tilt: No error induced from orientation. •Operating Temperature: -40 to 65 °C.

5. Temperature & Humidity sensor

Specifications of temperature sensor

Operating Limits: -40° to +100°C•Storage Temperature: -50° to +100°C••power Consumption: < 4.3 mA @ 5 Vdc< 2.0 mA @ 12 Vdc•Supply Voltage: 5 to 24 Vdc•Startup Time: 1.5 s.

Specification of humidity sensor

Hygrometer • Measurement Range: 0 to 100% RH, non- condensing • Output Signal Range: 0 to 1 Vdc • Accuracy at 23°C: ±0.8% RH with standard configuration settings • Sensor Time Constant [63% of a 35 to 80% RH step change (1 m/s air flow at sensor)] PE Filter: ≤ 22 s Teflon Filter: ≤ 30 s

6. Soil moisture & temperature sensors

• Sensor Output: SDI-12; serial RS-232 • Warmup Time: 3 s • Measurement Time: 3 ms to measure; 600 ms to complete SDI-12 command • Power Supply Requirements: 6 to 18 Vdc; must be able to supply 45 mA @ 12 Vdc Current Drain.

•Precision: <0.02Volumetric Water Content (m3/m3) •Range: 5% to 50% • Accuracy: ±3% Soil Temperature • Range: -10° to + 70°C • Accuracy: ±0.5°C for probe body buried in soil • Precision: ±0.02°C.

7. Tipping bucket rain gauge sensor

•Should consist dual reed switch closure •Should have an aluminum base (for eavy duty) • •Resolution:0.25mm •Measurement Range:0-700 mm/hr(0-27.6 in. hr-1) • •Accuracy:Better than ±2% @ 19.7 in. hr-1 (500 mm hr-1) • Weight: 3.3 kgs (7.4 lbs) with 25 ft signal cable (two-conductor shielded) •Height:34.2 cm (13.5 in) •Cable termination option:-PT for direct connection to data loggerLead length (cable length):10 meters.

8. CR-3000 Data-logger

• Data Logger shall be able to support and compatible with all slow and fast sensors to be mounted on tripod tower. • 4M or above RAM memory • 32 channel relay multiplexer • Standard operating range: • 25° to +50°C •user interface to program the logger •software for data logger support •Ethernet TCP/IP, compatible with RS-232 and RS-485 interface •Should come with NL115 ethernet interface and compact flash module.

Purchase & Stores Officer, IIRS

PURCHASE DEPARTMENT

NO.IIRS/P&S/GIER-2014-000180-01/PT-04/14-15

Date: 19.08.2014

SPECIAL TERMS AND CONDITIONS FOR SUBMITTING TWO PART BID

- This is a two part tender viz., Techno-Commercial Bid (consisting of Technical Specifications, Commercial terms & condition etc.) and Price Bid. Hence, quotation should be submitted in separate sealed covers super-scribing "Tender No. GIER-2014-000180-01/PT-04/14-15, Due on 23.09.2014 at 1300 hrs (Techno Commercial Bid) and Tender No. GIER-2014-000180-01/PT-04/14-15, Due on 23.09.2014 (Price Bid) at 1300 hrs.
- Both the sealed tenders (Techno commercial & Price bid) should be kept in one big cover super scribing TENDER for Cluster Computing Systems etc against Enquiry No. GIER-2014-000180-01/PT-04/14-15, Due on 23.09.2014 at 1300 hrs. and put in the Tender Box available in Purchase Division, IIRS or send by post within the due date and time prescribed.
- 3. Only Techno Commercial bid will be opened on the date of tender opening. The price Bids of those tenderers whose Techno Commercial Bids are found to be meeting our specifications / requirements will be opened in the presence of attending tenderers at the date and time to be notified later.
- 4. The Techno-Commercial Bid should have technical & commercial details only. No price should be quoted in the Techno-Commercial Bid.
- 5. Tenderer can download the tender documents from Website (<u>www.iirs.gov.in</u>) When Tender form is downloaded DD for Rs 227/- drawn in favour of Pay & Accounts Officer, IIRS payable at Dehradun shall be attached along with the technical bid.
- 6. Late & Delayed Tenders will not be acceptable.
- 7. Fax/e-mail offers shall not be considered for TWO PART BIDS
- 8. All the pages of your offer should be signed/initialed by competent authority and affixed with your company's seal.
- 9. EMD of Rs. 30,000/- to be submitted along with the quotation in the form of Crossed Demand Draft drawn on any Nationalized / scheduled bank in favour of Pay & Accounts Officer, IIRS, payable at Dehradun Quotation received without EMD will not be considered. The EMD of unsuccessful bidder will be returned after finalization of order.

Purchase & Stores Officer

PURCHASE DEPARTMENT

NO.IIRS/P&S/GIER-2014-000180-01/PT-04/14-15

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Date: 19.08.2014

<u>TERMS & CONDITION AGAINST GIER-2014000180-01/PT-04/14-15 for Eddy Covariance System</u> with Installation Commissioning Integration of Sensors etc.

TECHNICAL TERMS & CONDITIONS:

- 1. Vendor must provide certificate from OEM for warranty
- 2. The firm must be authorized by the manufacturer to supply, install and maintain the system. The specific authorization by the manufacturer for participating in this tender enquiry should be enclosed.
- 3. Facility after sales services to be confirmed with details
 - a) Firm with sales tax registration at least 3 years only need apply, Please indicate sales tax registration No.
 - b) Latest Income Tax clearance certificate/PAN no. is to be furnished.
 - c) Address of Local Office in Dehra Dun or nearest, if available.
 - d) Details of offices available in other places to be specified in the offer.
- 4. Technical Compliance Statement should be enclosed with the technical bid.
- 5. EMD should be enclosed with technical bid.

Purchase & Stores Officer

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PURCHASE DEPARTMENT

<u>GENERAL TERMS & CONDITION AGAINST GIER-2014000180-01/PT-04/14-15 for Eddy</u> <u>Covariance System with Installation Commissioning Integration of Sensors etc.</u>

- 1. Quotation should be submitted in a sealed envelope super scribing our tender No. & due date and sender Name with full address including telephone No/Fax Number.
- 2. Specifications: Item should be offered strictly confirming to our specifications. The deviation in specifications, if any shall be clearly indicated in the quotation. The make/type & Model No. of item should be indicated in the quotation.
- 3. Terms of Price : Quotation should be submitted on F.O.R Destination price including transit insurance. Preference will be given to such quotations. For quotation Ex-Works, Ex-Go down/F.O.R Dispatching station, the approximate packing, forwarding charges and freight should be indicated by the supplier.
- 4. Validity: The quotation should be valid for a minimum period of 90 days from the date of opening the bids
- 5. CST With effect from 01.04.2007, Form-D has been withdrawn for Inter-State purchases by Government Departments. Now the percentage of CST on the Inter-State sales to Government Departments shall be the percentage of VAT/State Sales Tax as applicable in the State of the Seller/Dealer. Accordingly, the suppliers have to indicate clearly the % of CST applicable against each case in their offers.
- The Tenders received on or before the due date and time including the tenders received by fax on the above fax number will only be considered as valid tenders. <u>Fax offers in case of two-part tenders</u> will not be considered
- Customs Duty IIRS is eligible for Customs Duty exemption as per Notification No. 51/96 dated 23/6/1996 as amended by Notification No. 24/2007 dated 01.03.2007 and amended by 12/2012, dated: 17.03.2013. This may be taken into account while quoting for import items, if any.
- 8. In case tenderers offering items considering customs duty exemption, they should also indicate the price, separately, with Customs Duty component and terms and conditions thereto
- 9. Delivery Period: Specific delivery period should be specified in your quote. If item ordered are not delivered within the stipulated delivery period, Liquidated Damages will be levied @ 0.5% per week or part of a week subject to a maximum of 10% of the total value of item delivered after expiry of delivery period.
- 10. Payment: Our normal payment terms are: Within 30 days from the date of receipt and acceptance of the materials. Payment for accepted quantity will be made as agreed to while placing order. Discount, Rebate, if any, for early payment should be clearly stated.
- 11. In case of imported stores "Sight Draft through SBI, providing for 90% of invoice value at sight on presentation of documents and balance 10% payment will be made upon expiry of warranty period or against Bank Guarantee for a like amount on a nationalized bank in the text prescribed byIIRS.
- 12. In case of imported stores, both FOB and CIF prices upto Indian Port of entry viz. New Delhi should be indicated.

- 13. Indian Agent's commission if any, and the percentage included in the quoted prices should be indicated in case of imported stores.
- 14. <u>Warranty</u>: Warranty period should be clearly indicated in your quote.
- 15 Literate/ Technical data should accompany with the quotation.
- 16, Item should be delivered, Installed at Indian Institute of Remote Sensing (IIRS) 4 Kalidas Road, Dehra Dun,
- 17. Director, IIRS reserve the right to accept or reject any quotation in full or part thereof without assigning any reasons.

1. <u>SPECIAL CONDITIONS FOR SUBMITTING QUOTATIONS IN FOREIGN CURRENCY</u> <u>BY THE INDIAN AGENTS</u>

The Tenderer should submit the following documents/information while quoting:-

- a) Foreign Principal's proforma invoice indicating the commission payable to the Indian Agent and nature of after sales service to be rendered by the Indian Agent.
- b) Copy of Agency agreement with the Foreign Principal, precise relationship between them and their mutual interest in the business.
- 2. Advance Payment Wherever advance payment is requested, Bank Guarantee from any Nationalized Bank should be furnished.
- Liquidated Damages In all cases, where advance payment is involved and where delivery is critical Liquidated Damages clause will be applicable at 0.5% per week or part thereof subject to a maximum of 10% of total order value.
- 4. **Performance Bank Guarantee -** Wherever called for Performance Bank Guarantee for 10% of the order value should be furnished covering the warranty period.
- 5. The delivery period mentioned in the tender enquiry, **IF ANY**, is with the stipulation that no credit will be given for earlier deliveries and offers with delivery beyond the period will be treated as unresponsive.
- 6. The Department will have the option to consider more than one source of supply and final orders will be given accordingly.
- 7. The bidders should note that conditional discounts would not have edge in the evaluation process of tenders.
- 8. Non-acceptance of any conditions wherever called for related to Guarantee/ Warranty, Performance Bank Guarantee, Liquidated damages are liable for disqualification.
- 9. Wherever installation/ commissioning involved, the guarantee/warrantee period should reckon only from the date of installation and commissioning.
- 10. The following information/ documents are to be furnished wherever applicable.
 - 1. Product Literature
 - 2. Core banking account number of SBI
 - 3. PAN No. in quotation and invoices
 - 4. Excise Duty, VAT, Service Tax Registration details.

Purchase & Stores Officer