भारतीय विज्ञान शिक्षा और अनुसंधान संस्थान पुणे
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH PUNE

निविदा संख्या पर प्रीबिड स्पष्टीकरण- आईआईएसईआर/ पी यू आर/1169/22
PREBID CLARIFICATION ON TENDER NUMBER – IISER/PUR/1169/22

वस्तु विवरण- ब्रॉडबैंड सिस्मोग्राफ और डेटा अधिग्रहण प्रणाली की खरीद
Item Description- Procurement of Broadband Seismograph and Data Acquisition System

ब्रॉडबैंड सिस्मोग्राफ और डेटा अधिग्रहण प्रणाली की खरीद के लिए 02/08/2023 को संस्थान की वेबसाइट www.iiserpune.ac.in और सीपीपी पोर्टल पर प्रकाशित एक खुली निविदा देखें।
Refer an open tender published on Institute website www.iiserpune.ac.in and on CPP Portal on 02/08/2023 for procurement of Broadband Seismograph and Data Acquisition System.

प्री-बिड मीटिंग 09/08/2023 को अपराह्न 4.00 बजे आयोजित की गई और बैठक का कार्यवृत्त निम्नानुसार है:
Pre-Bid meeting was held on 09/08/2023 at 4.00 PM and minutes of meeting is as under:

प्रारंभ में, समिति ने सभी सदस्यों और संभावित बोलीदाताओं के प्रतिनिधियों का स्वागत किया और सामान्य तौर पर निविदा के दायरे की जानकारी दी और उसके बाद सहायक कुलसचिव (भांडार अवं क्रय) से बोली लगाने वालों को निविदा की मुख्य विशेषताओं के बारे में जानकारी देने का अनुरोध किया।
At the outset, the committee welcomed all the Members and the representative of the Prospective Bidders and briefed in general the scope of the tender and thereafter requested Assistant Registrar (S&P) to brief the bidders on the salient features of the tender.

उपस्थित प्रतिनिधि दिए गए उत्तरों से संतुष्ट थे और यह सूचित किया गया था कि प्रीबिड कॉन्फ्रेंस के दौरान की गई चर्चा के अनुसार दिए - स्पष्टीकरण को / परिवर्धन / गए सुधारIISER पुणे की वेबसाइट पर होस्ट किया जाएगा और सभी संभावित बोलीदाताओं को बोली दस्तावेजों में निर्धारित अनुसार अपनी बोली जमा करने से पहले प्री-बिड सम्मेलन की कार्यवाही का संज्ञान लेना आवश्यक है।
The representatives present were satisfied with the replies given and it was informed that the corrections / additons / clarifications given, as discussed during the Pre-Bid Conference would be hosted on the website of IISER Pune and all the Prospective Bidders are required to take cognizance of the proceedings of the Pre-Bid Conference before submitting their bids as stipulated in the Bidding Documents.

हमारी आईआईएसईआर वेबसाइट www.iiserpune.ac.in पर जारी नोटिस के अन्य नियम और शर्तें अपरिवर्तित रहेंगी। इस संबंध में और कोई पत्राचार नहीं किया जाएगा।
The other terms & conditions of the notice issued on our IISER website www.iiserpune.ac.in will remain unchanged. No more correspondence in this regard will be entertained.

The meeting ended with vote of thanks to the Chair

09/08/2023 सहायक कुलसचिव (भांडार अवं क्रय)
09/08/2023 Assistant Registrar (S&P)

ANNEXURE -II

TECHNICAL QUERIES AND CLARIFICATION

PRE-BID CONFERENCE FOR PROCUREMENT OF BROADBAND SEISMOGRAPH AND DATA ACQUISITION SYSTEM

S. No	Query/Clarification Sought	Clarification / Amendment
1	**Chapter 4:** Schedule of Requirements Page 26. A. Data Acquisition System: Point 20: DAS firmware Features iv. LCD display should be provided in-built or external for indicating battery voltage, data acquisition status, memory used / available, GPS status etc. *We do have built-in LED indicators for verifying the system operational status. We believe that the external monitor may not be required in such case, please confirm.*	LCD or LED indicators, either in-built or external, are acceptable. The schedule of requirements/specifications is accordingly modified.
2	**Chapter 4:** Page No. 27 Note: Minimum Mark for Qualification is 85 *We request IISER Pune to waive off the marking system for technical specification or make minimum mark for qualification as 100.* *Because this will allow bidders to quote neglecting main specification such as Frequency response, noise level etc., which reflects on system* *performance and price. Still bidders will be able to qualify if the marking system is in place.*	Greater than 85 marks shall be required for qualification.
3	**Chapter 3. Page.18** 7. Installation 8. Inspection 9. Training *We hope the project site is IISER Pune and installation, inspection and training need to be conducted at IISER Pune. Kindly confirm.*	We confirm that installation and training need to be conducted at IISER Pune.

4	**Chapter 3: Page 18.** 10. Warranty Support: The defects, if any, shall be attended to on immediate basis but in no case any defect should prolong for more than 24 hours. The comprehensive warranty includes onsite warranty with parts. *We request you to extended the time to 72 hours.*	The timeline for attending to defects is increased to 72 hours.
5	**Chapter 4: Page: 25** A. Data Acquisition System Point No. 2: ADC *ADC is a key feature of a data acquisition system and it determines the quality and performance of the DAS.* *We would like to take this opportunity to propose a change in the ADC specification to a 32-bit ADC for several compelling reasons that we believe would significantly enhance the overall performance and versatility of the system.* *The most notable advantage of a 32- bit ADC over a 24-bit ADC is the increased resolution. With 32 bits, the ADC can provide much finer measurement precision, which is particularly valuable in applications that require high accuracy and fidelity. This enhanced resolution ensures that even the smallest variations in input signals are captured with utmost precision, leading to superior data quality and more accurate results.* *Further, the 32-bit option is now available with all leading seismic system manufacturers. Hence, we request you to change the specification to 32bits.*	24-bit ADC is the minimum requirement, any specification higher than this is acceptable. The schedule of requirement is modified to reflect this.
6	Broadband Seismometer - Self Noise # 7 is a critical specification, therefore more points should be allotted for this specification and additional points for better specs. The present allocated 5 points are very inadequate.	Tendered specifications prevail.

Annexure-A

Technical Specifications of Broadband Seismograph and Data Acquisition System

A. Data Acquisition System –6 Nos.

S.No.	Parameter	Description	Marks assigned
1.	Number of Channels	Three	5
2.	ADC	Three independent digitisers (24-bit minimum), one for each channel	5
3.	Input Full Scale	Range should match the sensor output with full scale at ±20V (40Vpp)	5
4.	Dynamic Range	135dB or higher at 100sps	10
5.	Hardware Gain	Multiple user selectable	
6.	Channel to channel Skew	Nil, simultaneous sampling of all three channels	-
7.	Recording Mode	continuous, event trigger (User selectable)	5
8.	Sampling rate	User selectable from 1 to 1000 sps per channel Simultaneous recording at different sampling rates in different streams (two or more), both in continuous and trigger modes.	10
9.	Pre-event and Post event	User selectable time length	-
10.	Timing System	Temperature compensated and digitally regulated quartz clock.	
11.	GPS receiver	Built in GPS receiver to output satellite time singles for synchronizing the internal clock of the digitizer with time accuracy better than +10µsec when GPS is locked. Antenna cable length 20m.	10
12.	Sensor control	i. Calibration facility for Broadband seismometer from DAS ii. Mass position monitoring for Broadband seismometer iii. Mass centering on command for Broadband seismometer	10
13.	Data Storage	i RAM 16 MB or more ii. User removable Recording media of capacity 32 GB or more iii. Hot swappable recording media iv. One set of spare recording media of same capacity for each DAS to be supplied v. The recording media card should be rugged and industrial grade suitable to withstand extreme temperature variations. vi. The bidder should attach the data sheet of the recording media to be supplied along with the bid documents.	5
14.	Recording format	i. Standard seismic data format compatible to Windows and Linux platforms with proven compression technique. ii. Utilities to convert raw data to miniseed, SAC, SEISAN and ASCII formats to be supplied.	5
15.	Operating Temperature Range	-20° to +60°C	5
16.	Humidity	up to 100% RH	-

17.	Power	i. Supply voltage 10-24V DC. ii. Power consumption less than 1.5 watts 12V DC for recording 3 channels at 100sps, continuous mode data acquisition iii. Supply power should be isolated from the signal ground. iv. Reverse voltage protection v. Low battery voltage protection vi. DAS power cable at least 3m length to be supplied vii. DAS should resume data acquisition automatically when the power is restored after disruption.	10
18.	Sensor support	Active Broad Band seismometer and Passive Short period seismometer.	5
19.	Communication ports	i. USB and / or serial port connectivity to a local terminal for parameter setting and data downloading ii. Ethernet port (10/ 100 Base- T) supporting TCP/IP. iii. The Ethernet cable to connect DAS to VSAT IDU with end connectors (length 3m) to be provided.	5
20.	DAS Firmware features	i. Web browsing support/ communication over TCP/ IP protocol. ii. Full Duplex communication between field station and Central Receiving Station (CRS) Triggered or continuous data transmission iii. Support off-the- shelf communication equipment iv. LCD-display/LED indicators should be provided in-built or external for indicating battery voltage, data acquisition status, memory used / available, GPS status etc. v. The DAS should be capable of recording on the local storage media as well as support real-time data telemetry to a central site through VSAT telemetry network simultaneously. vi. DAS should have facility to retrieve the old data in the storage media from Central Recording Station manually through VSAT network.	5
Total Marks			100

B. Software

1.	System Software- Qty-01nos.	Operation, Field Parameter Setup, review, Monitor, data retrieval.

C. Broadband Seismometer 6 Nos. (Unit must be compatible with the Digital Seismic recorder)

1.	Type	Tri-axial, Force balanced, broadband velocity transducer with electronic feedback. All three sensors should be permanently mounted in a single watertight, vacuum tight enclosure.	5
2.	Frequency response	Flat response (within+/-3dB) to ground velocity in the range of over 120 sec. to 50Hz.	15
3.	Output Voltage	±20V (40 V peak to peak differential)	10
4.	Velocity sensitivity	750 V/m/sec or higher	10
5.	Dynamic Range	>140dB	15
6.	Control unit	A control unit for mass position monitoring and mass centering (if required) to be provided	3

7.	Self-Noise below NLNM	30sec to 10Hz (Test reports of the sensor noise over the full pass band should be provided)	5
8.	Levelling	Bubble level indicator for levelling the transducer.	2
9.	Orientation	Suitable mark to indicate the direction of relative orientation of the transducer	-
10.	Seismometer control:	i. Mass position monitoring from the data acquisition system ii. Mass centering on command from the data acquisition system iii. Calibration of sensor from the data acquisition system	10
11.	Operating Temperature range	–20° to +60°C	-
12.	Humidity	up to 100% RH	-
13.	Power	i. Input power range 10 - 24V DC ii. Power consumption less than 1 W at 12V DC iii. Reverse voltage protection iv. Over voltage protection	10
14.	Thermal cover	An airtight thermal insulation cover from OEM should be provided.	-
15.	Field carry case	Rugged field carry case for seismometer from OEM should be provided.	-
D. Each Instrument should be complete with all accessories such as a 3 m power cable, 3m Ethernet cable, 10m sensor connecting cable, GPS antenna with 20m cable.			
NOTE: THE OFFERED ITEM SHOULD BE OF INTERNATIONALLY REPUTED BRAND MAKE. LESSER KNOWN BRAND OR ASSEMBLED OR LOCALLY MADE WILL NOT BE CONSIDERED FOR PURCHASE. The quantity of seismograph units may vary marginally.			15
Total Marks			100

Minimum qualifying marks to be 86 out of 100.