

Tender No. 57(28)2018-PUR/T-22 dated 25/07/2018
For Supply, Installation and Commissioning of Broadband Seismometers

Consequent upon Pre-Bid Conference held on 08/08/2018, the following documents are attached.

1. Minutes of Pre-Bid conference and clarifications issued during the Pre-Bid Conference. (Annexure-I)
2. Attendance sheet of the firms attended the Pre-Bid Conference. (Annexure-II)

- Controller of Stores & Purchase

Minutes of the Pre-Bid Conference
held on 08/08/2018 at 10.30 a.m at CSIR-NGRI, Hyderabad
to give clarifications for issues raised by firms against

Tender No. 57(28)2018-PUR/T-22 dated 25/07/2018
Supply, Installation and Commissioning of Broadband Seismometers

The following attended the conference.

From Technical & Purchase Committee

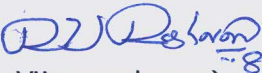
Dr. EVSSK Babu, Sr. Pr. Sct.	- Chairman
Sri. R. Vijayaraghavan, Pr. Sct.,	- Member
Dr. Nimisha Vedanti, Pr. Sct.,	- Member
Dr. M. Shekar, Sr. Sct.,	- Member
Mrs. P. Rajyalakshmi, F.A.O.	- Member
Sri.S.GNANAPRAKASAM, COSP	- Member - Convener

In the first instance, TPC noted that as per Clause No. 1.6 of the bid document, no queries on the bid document was received from any prospective bidder.

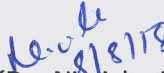
From Firms:

1. M/s. Chrisvin Geomet Services Pvt. Ltd., Chennai
2. M/s. Toshniwal Bros (Delhi) Pvt. Ltd., Secunderabad
3. M/s. Aimil Ltd., Secunderabad

Representatives of the firms at Sl. No. 1 and 2 confirmed that they do not have any query on the bid document in respect of technical and commercial issues. However, M/s. Aimil Ltd., Secunderabad had submitted their dated 08/08/2018 requesting for certain clarifications / amendments to the bid document. Though, the queries were not submitted in time as per the Clause No. 1.6 of the bid document, to induce competition and to provide equal opportunity to all the prospective bidders, gave clarifications. The clarifications / amendment (Clause No. 1.1.3 and Chapter 4 – Other essential requirements Sl.No. 3) given are as detailed in the annexure.


(R. Vijayaraghavan) 8/8/2018


(Dr.M. Shekar) 8/8/18


(Dr. Nimisha Vedanti) 8/8/18


(Mrs. P. Rajyalakshmi)


(S.GNANAPRAKASAM) 8/8/18


(Dr. EVSSK Babu)
Chairman 8/8/2018

Pre Bid Meeting (August 8, 2018)Clarifications sought by M/s. Aimil Ltd. and CSIR-NGRI replySpecifications

Sl. No.	Specifications as per Bid Document	Request for amendment/change	CSIR-NGRI reply
1	Tri- axial, Force balanced, broadband velocity transducer with electronic feedback and axial accuracy better than 1° .	Tri- axial, Force balanced, broadband velocity transducer with electronic feedback	Not acceptable. Axial accuracy better than 1° for the sensor components is essentially required.
2	Frequency response: Flat response (within +/- 3dB) to ground velocity in the range of 120 sec to 50Hz.	Frequency response: Flat response (within +/- 3dB) to ground velocity in the range of 120 sec to 50Hz.	No change requested.
3	Dynamic range $\geq$ 135 dB at 5Hz	Dynamic range $\geq$ 135 dB	Dynamic range $\geq$ 135 dB at 5Hz required. Any amendment not acceptable
4	Output voltage $\pm 20V$	Output voltage $\pm 20V$	No change requested.
5	Damping 0.7 of critical	Damping 0.7 of critical	No change requested.
6	Generator constant: 1500V/m/sec or higher.	Generator constant: 1500V/m/sec or higher.	No change requested.
7	Linearity Less than $\pm 1\%$ of full scale.	Linearity Less than $\pm 1\%$ of full scale.	No change requested.
8	Mass centering: i. Motorised mass centering by automatic or on external command locally and remotely ii. Temperature range without re-	Mass centering Automatic.	i. Motorised Mass centering by automatic or on external command locally from the data acquisition system and remotely from

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	centering $\pm 20^{\circ}\text{C}$ iii. Control unit for mass position monitoring and mass centering (if required) to be provided		the central recording station is required ii. Temperature range without re-centering $\pm 20^{\circ}\text{C}$ iii. Control unit for mass position monitoring and mass centering (if required) to be provided Any amendment not acceptable
9	Frequency response curve of the unit along with information regarding transfer function including poles, zeros and normalization factor should be provided (for each sensor as per the serial number)	Frequency response curve of the unit along with information regarding transfer function including poles, zeros and normalization factor should be provided (for each sensor as per the serial number)	No change requested.
10	Noise response must be below the USGS New Low Noise Model in the frequency range of 100sec to 10Hz. Test reports of the sensor noise over the full pass band should be provided.	Noise response must be below the Low Noise Model in the frequency range of 10sec to 5Hz. Test reports of the sensor noise over the full pass band should be provided.	Not acceptable. Noise response must be below the USGS New Low Noise Model in the frequency range of 100sec to 10Hz required. Test reports of the sensor noise over the full pass band should be provided.
11	Leveling: Bubble level indicator for leveling the transducer.	Leveling: Bubble level indicator for leveling the transducer.	No change requested.
12	Orientation: Suitable mark to indicate the direction of	Orientation: Suitable mark to indicate the	No change requested.

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	relative orientation of the transducer	direction of relative orientation of the transducer	
13	Mass locking: A robust mass locking and safety mechanism during transportation	Mass locking automatic	Mass locking: A robust mass locking and safety mechanism during transportation is required. Automatic Mass locking (when the power is disconnected) is acceptable
14	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	Seismometer control: Mass centering automatic Calibration facility through software	Not acceptable All features listed under i, ii and iii are required.
15	The sensor should be housed in a shockproof and waterproof enclosure.	The sensor should be housed in a shockproof and waterproof enclosure	No change requested.
16	Low-loss shielded Seismometer-DAS cable of at least 20 meters with appropriate end connectors.	Low-loss shielded Seismometer-DAS cable of at least 20 meters with appropriate end connectors.	No change requested.
17	The connectors also should be waterproof and rust proof	The connectors also should be waterproof and rust proof	No change requested.
18	Operating temperature range: -20° to 60°C	Operating temperature range: -20° to 60°C	No change requested.
19	Humidity: up to 100% RH	Humidity: up to 100% RH	No change requested.
20	Power : i. Input power range	Power : i. Input power	No change requested.

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	ii. 9 - 18V DC Power consumption <1.5 watts at 12V DC iii. Reverse voltage protection iv. Over voltage protection v. Built in Lightning protection	ii. range 9 - 18V DC Power consumption <1.5 watts at 12V DC iii. Reverse voltage protection iv. Over voltage protection v. Built in Lightning protection	
21	An airtight thermal insulation cover from OEM should be provided.	An airtight thermal insulation cover from OEM should be provided.	No change requested.
22	Rugged field carry case for seismometer from OEM should be provided.	Rugged field carry case for seismometer from OEM should be provided.	No change requested.
23	Detailed user manual / data sheets / calibration data sheet to be provided	Detailed user manual / data sheets / calibration data sheet to be provided	No change requested.
24	The test reports of the quoted model of the seismometer from the international recognized standard test laboratories like USGS Albuquerque seismological laboratory / IRIS should be attached.	The test reports of the quoted model of the seismometer from the international recognized standard test laboratories should be attached.	The test reports of the quoted model of the seismometer from the international recognized standard test laboratories <u>like</u> USGS Albuquerque seismological laboratory / IRIS should be attached.
25	Warranty: one year from the date of acceptance of the equipment:	Warranty: one year from the date of acceptance of the equipment.	No change requested.

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OTHER ESSENTIAL REQUIREMENTS:

Sl. No	Specifications as per Bid Document	Remarks	CSIR-NGRI reply
1	A point-by-point statement of compliance of the technical specifications of the tender equipment should accompany the bid along with the explanations as to how the compliance is achieved. It should also be supported by illustrative literature / catalogues.	A point-by-point statement of compliance of the technical specifications of the tender equipment should accompany the bid along with the explanations as to how the compliance is achieved. It should also be supported by illustrative literature / catalogues.	No change requested.
2	The bidder should be able to supply spares for the quoted model of the Broadband Seismometers and provide service support for ten years period .	The bidder should be able to supply spares for the quoted model of the Broadband Seismometers and provide service support for ten years period .	No change requested.
3	Bidder should have supplied at least 12 units of the Broadband seismometer with same specifications in the last two years as on the date of tender opening. The bidder should provide the list of customers to whom the Broadband seismometer with the same specifications have been supplied and also provide equipment performance report from 3 users concerned.	Bidder should have supplied the Broadband seismometer with same specifications in the last two years as on the date of tender opening. The bidder should provide the list of customers to whom the Broadband seismometer with the same specifications have been supplied and also provide equipment performance report users concerned.	The requirement is amended as follows. "Bidder should have supplied at least 12 units of the Broadband seismometer with same specifications in the last two years as on the date of tender opening. The bidder should provide the list of customers to whom the Broadband seismometer with the same specifications have been supplied and also provide equipment

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			<u>performance report from the users concerned"</u>
4	The seismometers procured shall be interfaced with the existing data acquisition system Model 130-01/3 (already supplied by M/s. Trimble Reftek, USA). a. After evaluation of technical bids, the successful bidders <u>should demonstrate</u> the quoted model of the Broadband seismometer at CSIR-NGRI, Hyderabad by interfacing with the existing data acquisition system Model 130-01/3 (already supplied by M/s. Trimble Reftek, USA) before opening the commercial bid. The features to be demonstrated are i. Mass position monitoring from the data acquisition system ii. Mass centering on command from the data acquisition system iii. Calibration of seismometer	The seismometers procured shall be interfaced with the existing data acquisition system Model 130-01/3 (already supplied by M/s. Trimble Reftek, USA). After evaluation of technical bids, the successful bidders <u>should demonstrate</u> the quoted model of the Broadband seismometer at CSIR-NGRI, Hyderabad by interfacing with the existing data acquisition system Model 130-01/3 (already supplied by M/s. Trimble Reftek, USA) before opening the commercial bid. The features to be demonstrated The bidder should bring the cable for demonstration to interface the seismometer to the data acquisition system with appropriate end connectors. The technical bids after successful demonstration shall be qualified. The other	CSIR-NGRI has data acquisition systems Model 130-01/3 already supplied by M/s. Trimble Reftek, USA. Only Broadband seismometers are purchased under this tender. The features listed under item i, ii, iii and iv should be demonstrated Any amendment not acceptable

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	from the data acquisition system iv. All the above features should be demonstrated locally on command from the data acquisition system as well as remotely from the central recording station across VSAT / cellular network The bidder should bring the cable for demonstration to interface the seismometer to the data acquisition system with appropriate end connectors. b. The technical bids after successful demonstration shall be qualified. The other bids shall be summarily rejected.	bids shall be summarily rejected.	
5	The supplier shall carry out the installation and commissioning of the Broadband seismometers at CSIR-NGRI, Hyderabad.	The supplier shall carry out the installation and commissioning of the Broadband seismometers at CSIR-NGRI, Hyderabad.	No change requested.
6	The supplier shall provide the necessary training on installation, operation, maintenance and calibration of the seismometer at CSIR-NGRI, Hyderabad for the	The supplier shall provide the necessary training on installation, operation, maintenance and calibration of the seismometer at CSIR-NGRI, Hyderabad for	No change requested.

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	period of five working days. The cost of such training programme to be quoted separately.	the period of five working days. The cost of such training programme to be quoted separately.	
7	The supplier should provide all operation, service and maintenance manuals (in English) along with necessary circuit diagrams	The supplier should provide all operation, service and maintenance manuals (in English) along with necessary circuit block diagrams	No change requested.

Further please note in **Chapter 4** Heading may please be corrected to be read as

“Specifications and other requirements of Broadband Seismometers”

instead of

“Specifications and other requirements of Broadband Seismographs”

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**Pre-Bid Conference for
Supply, Installation and Commisisoning of Broadband Seismometers
against Tender No. 57(28)2018-Pur/T-22 Dated July 25, 2018**

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