



National Institute of Technology Durgapur
NATIONAL INSTITUTE OF TECHNOLOGY, DURGAPUR
MAHATMA GANDHI AVENUE
DURGAPUR –713 209, WEST BENGAL, INDIA
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Email: topdar72@yahoo.co.uk
Telephone: + 91-9434788156

BID REFERENCE: NITD/CE/DST-TSDP/SHM/2017/01

Date: 19.12.2017

To

Dear Sir,

SUB: Invitation for quotations for supply and installation of Equipments/ Instruments under DST sponsored project "**Design and Development of Crack Detection System in Steel Bridges Using Acoustic Emission Technique**" (No. DST/TSG/STS/2015/62-C).

1. You are invited to submit your most competitive quotation for the listed items (**two numbers**) as per **Annexure-I**. The prospective bidder may bid for both the items or any one of the items. Separate bid should be submitted for individual items (1 &2).

2. Bid Price (Annexure-II)

- The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialling, dating and re writing.
- All duties, taxes and other levies payable by the bidder under the bid shall be included in the total price **F.O.R. NIT Durgapur**.
- The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- Quoting of Price (s): Price quoted should be in FCA/FOB basis for imported items.
- NIT Durgapur discourages High Sea Sale purchase. All tenders with High Sea Sale may be rejected.
- The bid price quoted must be either in Indian Rupees or in US dollars. Quotations will be evaluated based on the dollar price on the day of opening the tender.

3. The bid submitted by the bidder must comprise the following:

- Detailed technical specifications, conforming to the given specifications (vide Annexure – II), and literature /drawings /manuals of the goods/services to be supplied.
- Authorized dealership certificate from the original manufacturer.
- Credentials and list of organizations where the bidder supplied similar items
- Warranty period (minimum twelve months comprehensive on-site)
- Valid sales-tax / VAT/GST clearance certificate
- Price bid as per **Annexure-II**

4. Bids from manufacturers/authorized agents of **reputed brands of high technical quality** with adequate after-sales support facilities are desired.

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5. Validity of Quotation

Quotation shall remain valid for a period of 60 days after the deadline date specified for submission.

6. Evaluation of Quotations

The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e.

- (a) which are properly signed and
- (b) conform to the terms and conditions, and specifications.

The Quotations will be evaluated separately for each item.

7. Award of contract

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive, technologically acceptable and who has offered the lowest evaluated quotation price.

However, the decision of the Purchaser, which will have the power to decide over the right product, will be final in this regard.

7.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

7.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

7.3 The quantities mentioned are subject to modification at the time of placing the purchase order.

8. Delivery shall be made at the **Structural Health Monitoring Laboratory, Department of Civil Engineering at NIT, Durgapur.**

9. Payment shall be made within 30 days after satisfactory installation, commissioning and acceptance of the procured items.

10. Comprehensive onsite warranty shall be applicable to the supplied goods for a **minimum** period of **twelve months** from the date of installation.

11. The Institute is **exempted from payment of custom and excise duty** on items mentioned below:

- a) Scientific and technical instruments, apparatus, equipment (including computers)
- b) Accessories, spare parts and consumables thereof
- c) Computer software, CD-ROM, recorded magnetic tapes, microfilms, and microchips.

12. Liquidated Damage will be applicable at the rate of 0.5% per week. The purchaser has the right to cancel the purchase order when LD accumulates to 10%.

13. Settlement of any dispute will be made under the jurisdiction of Durgapur Court.

14. A bank draft or bank guarantee (as per **Annexure III**) worth 2% of the quoted value payable to "DST NITD SHM 2017". The EMD shall remain valid for a period of 45 days beyond the final bid validity period.

15. The quotations **for each item** should be submitted **separately** in a sealed cover containing **two separate sealed covers** marked **PART-I (Techno-commercial bid) and PART-II (Price bid)** containing relevant documents, and superscripted with "**Bid No. NITD/CE/DST-TSDP/SHM/2017/01/ Item's name and due date**". Further, the sentence "**Not to be opened before 11:00 a.m. on 09.01.2018**" is also to be put on these envelopes. The bid document must be signed in every page.

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16. Documents have to be submitted within the schedule date of the tender to the concerned persons mentioned in tender document.

17. **Deadline for submission of offer is 10.00 a.m. on January 09, 2018**

18. The purchaser will open the bids at **11.00 a.m. on January 09, 2018** in the Civil Engg. Department.

19. The bid document must be signed and sealed and enclosed with the bid as a token of acceptance of all terms and conditions in the bid document by the bidder.

20. The items must be delivered within **45 days** from the date of placement of purchase order at the respective department.

21. **Installation / commissioning / demonstration requirement: Installation, commissioning, complete demonstration and successful running at Civil Engineering Department, NIT, Durgapur.**

22. Performance Guarantee:

Performance Guarantee Bond (PGB) is mandatory.

Successful tenderer/ bidder should submit performance guarantee as prescribed above to be sent to The Principal Investigator, DST NITD SHM 2017 , NIT Durgapur on or before 15 days from the due date of issue of order acknowledgment. The PGB to be furnished in the form of bank guarantee as per the format provided in the annexure of the tender documents, for an amount covering 5% of the purchase order value.

The Performance Guarantee should be established in favour of **“DST NITD SHM 2017 , NIT Durgapur”**. (As per Annexure IV)

23. Pre-bid conference and demonstration on the list of items can be arranged in a mutually convenient date and time.

24. All other terms and conditions of GFR 2017 of the Government of India will be applicable.

We look forward to receiving your quotations and thank you for your interest in this bidding process.

Principal Investigator
DST_TSDP Project
Department of Civil Engineering
NIT Durgapur

The bid must be addressed to:

Dr. Pijush Topdar/Dr. Alope Kumar Datta

Department of Civil Engineering (Annexe)

NIT Durgapur

Durgapur-713209, W.B.

E-mail: topdar72@yahoo.co.uk, pijush.topdar@ce.nitdgp.ac.in

Website: www.nitdgp.ac.in

Telephone: + 91-9434788156 (M), +91-9434788119(M)

Annexure – I

List of equipment

Item No. and Name	Components of the item	Specification of the components				
1. Acoustic Emission System	a) Signal Processing Board	<p>Bus Architecture: Signal Processing board must have been built over PCI EXPRESS bus architecture for maximum acquisition speed</p> <p>Board Integration: 8-channels of AE & waveform acquisition & 8-channels of Parametric [e.g. temperature, pressure] acquisition should be built in on single PCI EXPRESS board to make system extremely portable.</p> <p>ADC TYPE: 16-bit with sample rate of 10 MSPS</p> <p>Frequency Response : 1KHz-1.2MHz</p> <p>Filters: HIGH PASS computer selectable 1 KHz, 5 KHz, 20 KHz, 100 KHz LOW PASS computer selectable filters 100 KHz, 400 KHz, 1MHz</p> <p>Analog Parametric A/D resolution : 16-bit</p>				
	b) Monitoring System	Compact AE system chassis for holding up to four Express 8, AE system cards (up to 32 channels for Express 8), with AE Hit LEDs, integrated CPU and Ethernet connection. Uses 90 - 260 VAC, 50- 60Hz VAC Power Supply along with keyboard, mouse, LCD monitor				
	c) Real Time Data Acquisition & Analysis Software	<p>Software must perform Simultaneous AE Hits/events & waveform capture. Software should include Linear & zonal location capabilities, Wavelet analysis, Dispersion curves, Spectrogram & short time FFT</p> <p>Software must have following Hit driven Time domain features</p> <p>Time, Amplitude, Rise-time, Energy, ASL, Initial freq, Sampling hits, Counts, Threshold, Signal Strength, Events</p> <p>Duration, Counts To Peak, Absolute[True] Energy, Average Frequency, Reverberation Frequency, Source Amplitude, RMS, Cycle Counter</p> <p>Frequency domain features</p> <p>Partial Power Spectrum, Peak Frequency, Waveform analysis, Frequency Centroid, Power Spectral Density [PSD]</p>				
	d) Location Modules	Software must have 2D-Planar location modules and 3-D-Location modules				
	e) AE Sensors	<table border="0"> <tr> <td>Type</td> <td>Operating frequency range</td> <td>Resonant frequency</td> <td>Peak sensitivity</td> <td>dB</td> </tr> </table>	Type	Operating frequency range	Resonant frequency	Peak sensitivity
Type	Operating frequency range	Resonant frequency	Peak sensitivity	dB		

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		(kHz)	(kHz)	ref. 1V/(m/s) [1V/ubar]
		Resonant 50- 400	75	75 [-64]
		Resonant 35-100	55	69 [-63]
		Wideband 100-900	125	55 [-62.5]
		Differential 20-60	30	85 [-70]
		Miniature 300-1800	250	48 [-77.5]
	f) AE Pre-Amplifier	AST Auto sensor Test facility 20dB / 40dB / 60 dB selectable gain Wide dynamic range >85 dB Low noise. <2 μV Large output 20Vpp into 50Ω; High Input impedance 3 KHz High Pass Plug-in Filter Should take single ended and differential sensor inputs		
	g) Cables	BNC POWER SIGNAL CABLE, 20m		
	h) Cables	Express Board to Standard Cable Other Cables as needed for the system		
2. Computer Server	a) Server	Intel Xeon Server E5-2609/2620 v4 (8 core) processor or equivalent 2.2 GHz 64 GB RAM (expandable up to 128 GB) 1 TB x 2 SAS / SATA disks in RAID 10 (1+0) 2 USB Port (for backups) LAN connectivity ports		
	b) Monitor	19" LED Monitor with Keyboard and mouse		
	c) Operating System	Windows 7 (Server version) / Windows 8 (Server version)		
	d) UPS	2 KVA online UPS with inbuilt battery bank		

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Annexure – II

PRICE BID

Reference/Tender No:

Due Date:

Item No.	Short Description & Specification of components	Quantity in units	Price	Total Bid Price
1	<p>a) Signal Processing Board</p> <p>Bus Architecture : Signal Processing board must have been built over PCI EXPRESS bus architecture for maximum acquisition speed</p> <p>Board Integration: 8-channels of AE & waveform acquisition & 8-channels of Parametric [e.g. temperature, pressure] acquisition should be built in on single PCI EXPRESS board to make system extremely portable.</p> <p>ADC TYPE : 16-bit with sample rate of 10 MSPS</p> <p>Frequency Response : 1KHz-1.2MHz</p> <p>Filters: HIGH PASS computer selectable 1 KHz, 5 KHz, 20 KHz, 100 KHz</p> <p>LOW PASS computer selectable filters 100 KHz, 400 KHz, 1MHz</p>	1 Per		
	<p>b) Monitoring System</p> <p>Compact AE system chassis for holding up to four Express 8, AE system cards (up to 32 channels for Express 8), with AE Hit LEDs, integrated CPU and Ethernet connection. Uses 90 - 260 VAC, 50-60Hz VAC Power Supply along with keyboard, mouse, LCD monitor.</p>	1 Per		

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Item No.	Short Description & Specification of components	Quantity in units	Price	Total Bid Price
	<p>c) Real Time Data Acquisition & Analysis Software</p> <p>Software must perform Simultaneous AE Hits/events & waveform capture. Software should include Linear & zonal location capabilities, Wavelet analysis, Dispersion curves, Spectrogram & short time FFT</p> <p>Software must have following Hit driven Time domain features</p> <p>Time, Amplitude, Rise-time, Energy, ASL, Initial freq, Sampling hits, Counts, Threshold, Signal Strength, Events</p> <p>Duration, Counts To Peak, Absolute[True] Energy, Average Frequency, Reverberation Frequency, Source Amplitude, RMS, Cycle Counter</p> <p>Frequency domain features</p> <p>Partial Power Spectrum, Peak Frequency, Waveform analysis, Frequency Centroid, Power Spectral Density [PSD]</p>	1 Per		

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d) Location Modules						
Software must have 2D-Planar location modules and 3-D-Location modules				1 per		
e) AE Sensors						
Type	Operating frequency range (kHz)	Resonant frequency (kHz)	Peak sensitivity dB ref. 1V/(m/s) [1V/ubar]			
Resonant	50- 400	75	75 [-64]	4 per		
Resonant	35-100	55	69 [-63]	3 per		
Wideband	100-900	125	55 [-62.5]	3 per		
Differential	20-60	30	85 [-70]	2 per		
f) AE Pre-Amplifier						
AST Auto sensor Test facility 20dB / 40dB / 60 dB selectable gain Wide dynamic range >85 dB Low noise. <2 μV Large output 20Vpp into 50Ω; High Input impedance 3 KHz High Pass Plug-in Filter Should take single ended and differential sensor inputs				8 Per		
g) Cables						
BNC POWER SIGNAL CABLE, 20m				8 Per		

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	h) Cables Express Board to Standard Cable Other Cables as needed for the system	8 Per		
2.	a) Server Intel Xeon Server E5-2609/2620 v4 (8 core) processor or equivalent 2.2 GHz 64 GB RAM (expandable up to 128 GB) 1 TB x 2 SAS / SATA disks in RAID 10 (1+0) 2 USB Port (for backups) LAN connectivity ports	1 per		
	b) Monitor 19" LED Monitor with Keyboard and mouse	1 per		
	c) Operating System Windows 7 (Server version) / Windows 8 (Server version)	1 per		
	d) UPS 2 KVA online UPS with inbuilt battery bank	1 per		

1. Delivery Period : **45 days**

2. Terms of payment:

(a) 100% payment will be released on delivery of the procured item followed by satisfactory installation/commissioning.

(b) Payment will be made within 30 days from the date of supply and installation of items.

3. Validity of the bid is 60 days from the deadline date of submission of quotation/tender.

Signature:

Name:

National Institute of Technology Durgapur

Business Address:

.....
Affix Rubber Stamp:
.....

Place:

Date:

Note: **Price Bid should be submitted in given format only.** For additional information/extra items above format may be typed and used

Annexure – III

FORMAT FOR EARNEST MONEY DEPOSIT / BID BOND

(To be typed on Non-judicial stamp paper of the value of Indian Rupees of One Hundred) (TO BE ESTABLISHED THROUGH ANY OF THE NATIONALISED BANKS (WHETHER SITUATED AT DURGAPUR OR OUTSTATION) WITH A CLAUSE TO ENFORCE THE SAME ON THEIR LOCAL BRANCH AT DURGAPUR OR ANY SCHEDULED BANK (OTHER THAN NATIONALISED BANK) SITUATED AT DURGAPUR. BONDS ISSUED BY CO-OPERATIVE BANKS ARE NOT ACCEPTED)

National Institute of Technology Durgapur
LETTER OF GUARANTEE

To,
The Principal Investigator,
DST NITD SHM 2017,
NIT Durgapur,
Durgapur- 713209.

IN ACCORDANCE WITH YOUR TENDER No: dated.....for supply of, M/s. (hereinafter called the “Bidder”) having its Registered Office at, wish to participate in the said bid for the supply as an irrevocable Bank Guarantee against Earnest Money Deposit for an amount of Rs. (Rupees.....) valid up to **(180 days from the date of issue of Bank Guarantee)**, is required to be submitted by the bidder as a condition precedent for participating in the said bid, which amount is liable to be forfeited by the Purchaser on (1) the withdrawal or revision of the offer by the bidder within the validity period, (2) Non acceptance of the Letter of Intention / Purchase order by the Bidder when issued within the validity period, (3) failure to execute the contract as per contractual terms and condition with in the contractual delivery period and (4) on the happening of any contingencies mentioned in the bid documents.

During the validity of this Bank Guarantee:

We,(Bank name) having its registered Office atguarantee and undertake to pay immediately on first demand by the amount of Rs..... (Rupees.....) without any reservation, protest, demur and recourse. Any such demand made by the NIT Durgapur shall be conclusive and recourse. Any such demand made by the purchaser shall be binding on the Bank irrespective of any dispute or difference raised by the Bidder.

The Guarantee shall be irrevocable and shall remain valid up to(180 days from the date of issue of Bank Guarantee) If any further extension is required, the same shall be extended to such required period on receiving instruction form the Bidder, on whose behalf the is Guarantee is issued.

Notwithstanding anything contained herein:

- Our liability under this Bank Guarantee shall not exceed Rs..... (Rupees.....) .
- This Bank Guarantee shall be valid up to (date).
- We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee Only and only if you serve upon us a written claim or before (date).

This Bank further agrees that the claims if any, against this Bank Guarantee shall be enforceable at our branch office at situated at (Address of local branch).

National Institute of Technology Durgapur

Yours truly,

Signature and seal of the guarantor:

Name of Bank:

Address:

Date:

Instruction to Bank: Bank should note that on expiry of Bond Period, the Original Bond will not be returned to the Bank. Bank is requested to take appropriate necessary action on or after expiry of bond period.

Annexure – IV

FORMAT FOR PERFORMANCE GUARANTEE BOND

(To be typed on Non-judicial stamp paper of the value of Indian Rupees of One Hundred) (TO BE ESTABLISHED THROUGH ANY OF THE NATIONAL BANKS (WHETHER SITUATED AT DURGAPUR OR OUTSTATION) WITH A CLAUSE TO ENFORCE THE SAME ON THEIR LOCAL BRANCH AT DURAGAPUR OR ANY SCHEDULED BANK (OTHER THAN NATIONALISED BANK) SITUATED AT DURGAPUR. BONDS ISSUED BY CO-OPERATIVE BANKS ARE NOT ACCEPTED.)

National Institute of Technology Durgapur

To,
The Principal Investigator,
DST NITD SHM 2017,
NIT Durgapur,
Durgapur- 713209.

LETTER OF GUARANTEE

WHEREAS National Institute of Technology, Durgapur (Buyer) have invited Tenders vide Tender No..... Dt. for purchase of AND WHEREAS the said tender document requires that any eligible successful tenderer (seller) wishing to supply the equipment / machinery, etc. in response thereto shall establish an irrevocable Performance Guarantee Bond in favour of “**DST NITD SHM 2017, NIT Durgapur**” in the form of Bank Guarantee for Rs [5% (five percent) of the purchase value] and valid till one year or up to warranty period whichever is later from the date of issue of Performance Guarantee Bond may be submitted within 15 (fifteen) days from the date of Order Acknowledgement as a successful bidder.

NOW THIS BANK HEREBY GUARANTEES that in the event of the said tenderer (seller) failing to abide by any of the conditions referred in tender document / purchase order / performance of the equipment / machinery, etc. this Bank shall pay to **DST NITD SHM 2017, NIT Durgapur** on demand and without protest or demur Rs (Rupees.....).

This Bank further agrees that the decision of **The Principal Investigator, DST NITD SHM 2017, NIT Durgapur** (Buyer) as to whether the said Tenderer (Seller) has committed a breach of any of the conditions referred in tender document / purchase order shall be final and binding.

We, (name of the Bank & branch) hereby further agree that the Guarantee herein contained shall not be affected by any change in the constitution of the Tenderer (Seller) and/ or Indian Institute of Technology, Durgapur(Buyer).

Notwithstanding anything contained herein:

1. Our liability under this Bank Guarantee shall not exceed Rs. (Indian Rupees only).
2. This Bank Guarantee shall be valid up to(date) and
3. We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only and only if NIT Durgapur serve upon us a written claim or demand on or before(date).

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This Bank further agrees that the claims if any, against this Bank Guarantee shall be enforceable at our branch office at situated at (Address of local branch).

Yours truly,

Signature and seal of the guarantor

Name of Bank:

Address:

Date:

Instruction to Bank: Bank should note that on expiry of Bond Period, the Original Bond will not be returned to the Bank. Bank is requested to take appropriate necessary action on or after expiry of bond period.

