

Tender Reference No: IITK/CESE/HESL/2019/02



I.I.T

Indian Institute of Technology Kanpur

KALYANPUR, KANPUR-U.P.

208016

BID SUBMISSION END DATE- 28.08.2019

TENDER DOCUMENTS

FOR

“PURCHASE OF PCI AND ACCESSORIES”

BID DOCUMENT

Online bids (Technical & Financial) from eligible bidders which are valid for a period of 90 days from the date of Technical Bid opening (i.e.29/08/2019) are invited for and on behalf of the Assistant Registrar, IIT, Kanpur for “**Purchase of PCI and Accessories**”.

<i>Name of Work</i>	Purchase of PCI and Accessories.
Date of Publishing	07.08.2019 (4:00 PM)
<i>Clarification Start Date and Time</i>	07.08.2019 (4:00 PM)
<i>Clarification End Date and Time</i>	28.08.2019(04:00 PM)
<i>Queries (if any)</i>	<i>No queries will be entertained after clarification end date and time</i>
Bid Submission Start Date	07.08.2019 (4:00 PM))
<i>Last Date and time of uploading of Bids</i>	28.08.2019 (04.00 PM)
<i>Last Date and time of submitting , EMD and other documents at IIT Kanpur (if any)</i>	NA
<i>Date and time of opening of Technical Bids</i>	29.08.2019(04:00 PM)
<i>Date and time of opening of Financial Bids</i>	<i>Will be separately notified for Technically shortlisted/qualified bidders</i>

Interested parties may view and download the tender document containing the detailed terms & conditions from the website <http://eprocure.gov.in/eprocure/app>

(The bids have to be submitted online in electronic form on www.eprocure.gov.in only. No physical bids will be accepted.)

INSTRUCTION FOR ONLINE BID SUBMISSION

The bidders are required to submit soft copies of their bids electronically on the Central Public Procurement (CPP) Portal i.e. <http://eprocure.gov.in/eprocure/app> , using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

REGISTRATION

- (i) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “Online Bidder Enrollment” option available on the home page. **Enrolment on the CPP Portal is free of charge.**
- (ii) During enrolment/ registration, the bidders should provide the correct/ true information including valid email-id & mobile no. All the correspondence shall be made directly with the contractors/ bidders through email-id provided.
- (iii) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- (iv) For e-tendering possession of valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) is mandatory which can be obtained from SIFY /nCode/eMudra or any Certifying Authority recognized by CCA India on eToken/ SmartCard.
- (v) Upon enrolment on CPP Portal for e-tendering, the bidders shall register their valid Digital Signature Certificate with their profile.
- (vi) Only one valid DSC should be registered by a bidder. Bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse and should ensure safety of the same.
- (vii) Bidders can then log into the site through the secured login by entering their userID/ password and the password of the DSC/ eToken.

SEARCHING FOR TENDER DOCUMENTS

- 1) There are various search options built in the CPP Portal to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords, etc., to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS:

- (i) For preparation of bid Bidders shall search the tender from published tender list available on site and download the complete tender document and should take into account corrigendum if any published before submitting their bids.
After selecting the tender document same shall be moved to the ‘My favourite’ folder of bidders account from where bidder can view all the details of the tender document.
- (ii) Bidder shall go through the tender document carefully to understand the documents required to be submitted as part of the bid. Bidders shall note the number of covers in which the bid documents have to be submitted, the number of documents – including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- (iii) Any pre-bid clarifications if required, then same may be obtained online through the tender site, or through the contact details given in the tender document.
- (iv) Bidders should get ready in advance the bid documents in the required format (PDF/xls/rar/dwf/jpg formats) to be submitted as indicated in the tender document/schedule. **Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.**
- (v) **with 100 dpi with black and white option which helps in reducing size of the scanned document.**

- (vi) Bidders can update well in advance, the documents such as experience certificates, annual report, PAN, EPF & other details etc., under “My Space/ Other Important Document” option, which can be submitted as per tender requirements. This will facilitate the bid submission process faster by reducing upload time of bids.

SUBMISSION OF BIDS:

- (i) Bidder should log into the site well in advance for bid submission so that he/ she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay.
- (ii) Bidder should prepare the EMD as per the instructions specified in the NIT/ tender document. The details of the DD/BC/BG/ others physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
- (iii) While submitting the bids online, the bidder shall read the terms & conditions (of CPP portal) and accepts the same in order to proceed further to submit their bid.
- (iv) Bidders shall select the payment option as offline to pay the EMD and enter details of the DD/BC/BG/others.
- (v) Bidder shall digitally sign and upload the required bid documents one by one as indicated in the tender document.
- (vi) Bidders shall note that the very act of using DSC for downloading the tender document and uploading their offers is deemed to be a confirmation that they have read all sections and pages of the tender document without any exception and have understood the complete tender document and are clear about the requirements of the tender document.
- (vii) Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document. For the file size of less than 1 MB, the transaction uploading time will be very fast.
- (viii) **If price quotes are required in XLS format, utmost care shall be taken for uploading Schedule of quantities & Prices and any change/ modification of the price schedule shall render it unfit for bidding.**
Bidders shall download the Schedule of Quantities & Prices i.e. Schedule-A, in XLS format and save it without changing the name of the file. Bidder shall quote their rate in figures in the appropriate cells, thereafter save and upload the file in financial bid cover (Price bid) only.
If the template of Schedule of Quantities & Prices file is found to be modified/corrupted in the eventuality by the bidder, the bid will be rejected and further dealt as per provision of clause no 23.0 of ITB including forfeiture of EMD.
The bidders are cautioned that uploading of financial bid elsewhere i.e. other than in cover 2 will result in rejection of the tender.
- (ix) Bidders shall submit their bids through online e-tendering system to the Tender Inviting Authority (TIA) well before the bid submission end date & time (as per Server System Clock). **The TIA will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders at the eleventh hour.**
- (x) After the bid submission (i.e. after Clicking “Freeze Bid Submission” in the portal), the bidders shall **take print out of system generated acknowledgement** number and keep it as a record of evidence for online submission of bid, which will also act as an entry pass to participate in the bid opening.
- (xi) Bidders should follow the server time being displayed on bidder’s dashboard at the top of the tender site, which shall be considered valid for all actions of requesting, bid submission, bid opening etc., in the e-tender system.
- (xii) All the documents being submitted by the bidders would be encrypted using PKI (Public Key Infrastructure) encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology.

ASSISTANCE TO BIDDERS:

- (i) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contract person indicated in the tender. The contact number for the helpdesk is 0512-2596049 between 10:30 hrs to 17:00 hrs.

- (ii) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24X7 CPP Portal Helpdesk. The 24 x 7 Help Desk Number 0120-4200462, 0120-4001002 and 0120-4001005. The helpdesk email id is support-eproc@nic.in

INSTRUCTION FOR e-PROCUREMENT

1. PREPARATION AND SUBMISSION OF BIDS :

- a. The detailed tender documents may be downloaded from <http://eprocure.gov.in/eprocure/app> till the last date of submission of tender. The Tender may be submitted online through CPP Portal <http://eprocure.gov.in/eprocure/app>
- b. The bidder should submit the bid online in two parts viz. Technical Bid and Financial Bid. Technical Bid should be upload online in cover 1 and Financial Bid in “.Xls” should be upload online in cover-2

2. SUBMISSION OF THE BID : All interested eligible bidders are requested to submit their bids online on CPP Portal: <http://eprocure.gov.in/eprocure/app> as per the criteria given in this document:

- a. Technical Bid should be upload online in cover-1.
- b. Financial Bid should be upload online in cover-2

Both Technical and Financial Bid covers should be placed online on the CPP Portal (<http://eprocure.gov.in/eprocure/app>).

3. TECHNICAL BID: Signed and Scanned copies of the Technical bid documents as under must be submitted online on CPP Portal: <http://eprocure.gov.in/eprocure/app>.

List of Documents to be scanned and uploaded (Under Cover-1) within the period of bid submission:-

- i. Scanned copy of Bank details. (Bank details of principal supplier in case of Import shipments)
- ii. Scanned copy of work experience.
- iii. Scanned copy of certificate of GST. (GSTIN of Indian Agent in case of Import Shipments)
- iv. Scan copy of tender acceptance letter.
- v. Scanned copy of specifications or brochures (if any).
- vi. Scanned copy of other document mentioned in tender document (if any)

Please note that no indication of the rates/amounts be made in any of the documents submitted with the TC-BID.

4. Financial Bid

- a. The currency of all quoted rates shall be **Indian Rupees/USD**.
- b. In preparing the financial bids, bidders are expected to take into account the requirements and conditions laid down in this Tender document. The financial bids should be uploaded online as per the specified “.Xls” format i.e. Price Bid Excel sheet attached as ‘.Xls’ with the tender and based on the scope of work, service conditions and other terms of the Tender document. It should include all costs associated with the Terms of Reference/Scope of

Work of the assignment.

- c. The Financial Proposal should be inclusive of all applicable taxes, duties, fees, levies, and other charges imposed under the applicable laws. The rates quoted in the Tender are inclusive of all applicable taxes, duties etc. **except service tax**. The service tax component shall be re-immersible by the department after receipt of paid challans etc. if applicable.

5. Last Date for Submission of Tender:

- a. Online bids complete in all respects, must be submitted on or before the last date and time specified in the schedule of events.
- b. The IIT, Kanpur may, at its own discretion, alter/extend the last date for submission of tenders.

6. Bid Validity

- a. All the Bids must be valid for a period of 90 days from the last date of submission of the tender for execution of Contract. However, the quoted rates should be valid for the initial/ extended period of the Contract from the effective date of the Contract. No request will be considered for price revision during the original Contract period.
- b. A bid valid for a shorter period shall be declared as non-responsive.
- c. In exceptional circumstances, prior to expiry of the original time limit, the IIT may request the bidders to extend the period of validity for a specified additional period beyond the original validity of 90 days. The request and the bidders' responses shall be made in writing. The bidders, not agreeing for such extensions will be allowed to withdraw their bids without forfeiture of their Bid Security.

7. Modification / Substitution/ Withdrawal of bids:

- a. No Bid shall be modified, substituted or withdrawn by the Bidder after the Bid 's due Date.
- b. Any alteration/ modification in the Bid or additional information supplied subsequent to the Bid's due Date, unless the same has been expressly sought for by the Authority, shall be disregarded.

8. Rejection of the Bid: The bid submitted shall become invalid and tender fee shall not be refunded if:-

- a. The bidder is found ineligible.
- b. The bidder does not upload all the documents as stipulated in the bid document.

Tender document

Department of Materials Science and Engineering
 Indian Institute of Technology Kanpur
 Kanpur (UP) 208016 India

Enquiry Date: August 07, 2019

Enquiry No: IITK/CESE/HESL/2019/02

Online quotations are invited for PCI and Accessories. The detailed specification of the PCI and Accessories is described below.

ITEM: PCI and Accessories

The party participating in the bid is referred to as vendor/supplier/company in this document.

The purchaser is referred to as I.I.T. Kanpur or IITK.

A) Technical Specifications

Quotations are invited for PCI and accessories with specifications as in table below. The PCI unit should be manufactured by an internationally reputed manufacturer.

Table 1 Technical Specifications of the PCI and accessories.

Parameter	Value
Analysis Techniques	PCI, TPD, Kinetics, Surface Area (BET), He pycnometry.
Analysis method	Volumetric method (Sieverts' principle)
Working Gases	Hydrogen and Helium
Working Pressure	50 bar
Working Temperature	25°C to 400°C. (ability to work in liquid nitrogen temperatures using dewar flask)
Sample Ports	One port.
Sample Chambers	SS 316 L, 2 mL with an external shut off valve.
Sample Temperature	internal K-type thermocouple (accuracy $\pm 0.1^\circ\text{C}$), (2 spares)
Chamber Sealing	O-ring type seal at room temperature
Chamber Filter	Built -in 0.5 μ filter
Sample Heating	Vertical Furnace with temperature programming ability using software.
Sample Amount	Ability to measure samples from milligrams to few grams.
Sample Handling	Ability to load and unload sample in the glove box.
Transducer Type	Strain Gauge Type
Transducer Accuracy	$\geq 0.05\%$ in the entire range
Vacuum Pump	Turbo molecular pump (10^{-8} torr) incorporated in the system with automatic operation by software.
Vacuum gauge	Digital Penning Gauge (10^{-5} torr), Digital Pirani Gauge (10^{-3} torr)
Data Acquisition	High-precision and complete integration data acquisition modules with minimal error, strong anti-interference ability.
Working Valve Type	Pneumatic valves with automatic operation.
Safety Features	Automatic shut-off on exceeding maximum pressure/temperature.
Furnace Temperature Control	PID programmer with digital Temperature Controller cum indicator.
Reference Materials	Calibration using reference materials such as LaNi ₅ (25°C) and Basolite (77 K).

Tender Reference No: IITK/CESE/HESL/2019/02

Software	Labview type interface with complete programmable input.	
Data Logging	Automatic data logging (pressure, temperature for reservoir and sample chamber) and data sheet display in real time.	
Accessories		
Cryo mill	PCI sample preparation. Programmable cryogenic mill for grinding temperature sensitive samples. Sealed cryogenic grinding vial immersed in liquid nitrogen. Sample 10-20 g.	
High pressure gas regulator	Gas to be used: Hydrogen (inlet to PCI). Quantity: Two. Maximum inlet pressure: 240 bar .Maximum Outlet Pressure: 170 bar. Maximum Flow Rate: 2170 LPM. Operating Temperature: -26°C to 74°C. Porting (Regulator Body): 1/4"NPT Female. Porting Configuration: 2 High, 2 Low. Seals: Teflon and Viton A. Seat : Kel F-81. Piston: 316 Stainless Steel. Outlet Valve: Needle valve.	
High pressure gas filter	To filter gases passed through the PCI instrument. Maximum Operating Pressure: 124 bar. Maximum allowable oxygen level: 1% by volume. Maximum Flow rate: 8 SCFH. Inlet/Outlet: 1/4" FPT. Cartridge: One extra.	
Air compressor	To operate the valves of the PCI instrument. Piston displacements : 18 CFM. Tank capacity: 220 Ltrs. No. of stages: Double. No. of cylinders: Two. Speed of compressor: 780 RPM. Working pressure: 10-12 Kg/Cm ² . Motor Required: 1 HP, 3 Phase C.G.	
Power supply backup (UPS+batteries)	10 kVA backup, single phase input and output, 15 batteries (26AH and 16 volt).	
Gas line connections	The unit and accessories should be connected via regulator and filter via SS gas line and Swagelok valves.	
He cylinder	One high purity Helium cylinder with gas at 150 bar (to be connected to the PCI unit)	
Fume hood & Ball Mill	For PCI sample preparation. Ball mill. Planetary 2 station ball mill. 250 ml jar. 70 g force. Variable Speed upto 600 rpm. Jar speed upto 1200 rpm. Programmable. Two WC 250 ml Jars with vacuum port and gas filling (GPF). Fume hood. Fiber body, granite platform, Tap and sink inside, switchboard inside, 4ft by 2 ft size, exhaust height 25 ft. Installation on site.	
Temperature display	For PCI sample temperature control bath. For type-K & J thermocouples. Temperature range: -250 to 400 °C. Two thermocouple ports. Handheld.	
Vacuum Oven	For PCI sample preload. 3 rack, 6x6x6 ft size, temperature 50 to 200 °C, SS body, Digital temperature control.	
Pneumatic fittings	PCI pneumatic fittings. Swagelok Body Material 316L VIM-VAR, Connection 1 Size 1/4 in. Connection Type Swagelok Tube Fitting, Cleaning Process Special Cleaning and Packaging (SC-11), Connection Size 1/4 in.	
Pressure Transducers	Two numbers (A type and B type as below) for PCI unit.	
Parameter	Pressure Sensor A	Pressure Sensor B
Pressure Limit	50 PSI	1000 PSI
Accuracy & Linearity	±0.1% full scale	±0.1% full scale
Hysteresis	±0.05% full scale	±0.05% full scale
Resolution	Infinite	Infinite
Calibration	10-point final calibration	10-point final calibration
Environmental Specifications		
Temperature Compensation	15 to 70 °C	15 to 70 °C
Temperature Effect, Zero	0.0025% Full scale	0.0025% Full scale
Temperature Effect, Span	0.0025% reading	0.0025% reading

Sealing	Hermetically Sealed	Hermetically Sealed
Electrical Specifications		
Strain Gage Type	Bonded Foil	Bonded Foil
Insulation resistance	5000 mOhm @ 50 Vdc	5000 mOhm @ 50 Vdc
Bridge Resistance	350 Ohm	350 Ohm
Shunt Calibration data	Included	Included
Internal Amplifiers	Vehicle Voltage Amplifier (0 to 5 Vdc) with 11 to 28 V dc supply	Vehicle Voltage Amplifier (0 to 5 Vdc) with 11 to 28 V dc supply
Frequency Response	3000 Hz	3000 Hz
Electrical Termination	6 –pin, shell size 10 connector	6 –pin, shell size 10 connector
Special Calibration	10-point final calibration	10-point final calibration
Mechanical Specifications		
Pressure Ports	¼-18 NPT Male Pressure Port	¼-18 NPT Male Pressure Port
Wetted Parts Material	17-4 PH Stainless Steel	17-4 PH Stainless Steel
Media	All gases/ liquids compatible with wetted parts	All gases/ liquids compatible with wetted parts

B) Terms and conditions

Warranty

- Two year onsite comprehensive warranty is preferred (from date of successful installation at IITK).

Installation

- The price should be inclusive of installation on site with full functionality.

Delivery and address

- For delivery by Indian vendor/supplier within India the delivery of the product should be made at IITK. For imports from abroad, the vendor should provide the correct address and other details, so that IITK can arrange for pickup and transport of material from the vendors outlet/factory.
- 10 weeks maximum from the date of purchase order. For any extension in the delivery date, permission should be sought with valid reasons.

Payment & Taxes: As per IIT Kanpur Norms.

Concessional rate of GST (@ 5%) will be applicable with reference to Notification No. 45/2017 Central Tax (Rate) dated 14/11/2017. IITK will provide relevant certificate for this purpose. On import items for research purpose presently the GST applicable is 0% (Zero percent). DSIR certificate along with CDEC will be provided by IITK to vendor for availing concession. *Vendor should use these GST rates in their quotation.*

Customs/Excise Duty

The institute is exempted partially from payment of customs duty (The rate applicable will be @ 5.50%). Under notification 51/96 and a road permit will be provided (wherever applicable). It is to be noted that the Concessional Form 'C/D' have been abolished w. e. f. Apr 01, 2007.

Spares

All required spares for operation for two years have to be provided.

Certificate of satisfactory performance

The company should provide one/both of the following. (i) Certificate of satisfactory installation and performance of PCI unit from at least 3 (three) customers, to whom a similar main product has been supplied. The customers should be from IITs, BARC or CSIR labs). (ii) Citation of three publication in scopus indexed journals, which have generated data using the PCI instrument quoted or a similar model of the manufacturer.

Details of Quotation

- Quotation should be valid for 90 days. **Single price should be mentioned for all items mentioned in the table (PCI and accessories)– in case the supply is purely from India or purely from outside India (i.e. no separate pricing should be given). In case there are import items and items to be supplied from India then only two prices can be quoted (one for the import items and one for Indian items). Taxes should be extra on the material being supplied from India and should be separately mentioned.**
- Documentation to be attached regarding the product: (i) Specifications brochure, (ii) Operation instructions manual, (iii) Photographs of the product (relevant views).
- The address of all primary vendors (i.e. parties supplying to IITK should be provided) along with relevant documents and numbers (e.g. GST & PAN).
- Maximum educational discount should be offered wherever applicable (i.e. pricing should be for educational institute).
- The indenter reserves the right to withhold placement of final order. The right to reject all or any of the quotations and to split up the requirements or relax any or all of the above conditions without assigning any reason is reserved.

Notes

- IITK will arrange for shipping and custom clearance of import items.
- Foreign vendors may use Indian representatives to supply items available in India. Or Indian vendors may import the items made abroad (via IITK for shipping and customs clearance).
- Import duty, customs clearance charges and taxes will be as applicable to IITK. Certificates to this regard will be provided by IITK.

Dr Anandh Subramaniam

Centre for Environmental Science and Engineering (CESE) &

Department of Materials Science and Engineering (MSE)

I.I.T. Kanpur, Kanpur 208016

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Appendix

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date: _____

To,

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No: _____

Name of Tender / Work: -

Dear Sir,

1. I / We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely: _____ as per your advertisement, given in the above mentioned website(s).
2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. _____ to _____ (including all documents like annexure(s), schedule(s), etc .), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.
3. The corrigendum(s) issued from time to time by your department/ organisation too have also been taken into consideration, while submitting this acceptance letter.
4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.
5. I / We do hereby declare that our Firm has not been blacklisted/ debarred/ terminated/ banned by any Govt. Department/Public sector undertaking.
6. I / We certify that all information furnished by our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organisation shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,
(Signature of the Bidder, with Official Seal)