

**KHARAGPUR – 721 302, INDIA**  
**NOTICE INVITING TENDER**

*No. IIT/MSC/ENQ/SBM/5/2018-19*

*Date: 09.11.2018*

***Sub: Procurement of “Integral Cell/Battery Impact Crush Nail Penetration Machine”***

Indian Institute of Technology, Kharagpur, invites sealed bids from reputed manufacturer or their authorised Distributor/Dealer (foreign firms or their Indian Representative company) who have adequate credential for supply, installation and commissioning of **“INTEGRAL CELL/BATTERY IMPACT CRUSH NAIL PENETRATION MACHINE”**, required for dedicated use in relevant research purposes, as per Annexure–I for **Materials Science Center, Indian Institute of Technology, Kharagpur, India.**

Interested parties may submit their sealed bids under Two-Bids system as per **Technical Specifications** given at **Annexure I**, and **General Terms & Conditions and Special instructions** given at **Annexure II and Annexure III**. Bidders are required to submit their **Details** in the format given at **Annexure IV** along with their technical bids. They are also required to submit a signed **Declaration** in format given at **Annexure V**. A **Checklist** and **Compliance statement** against each item of Annexures I thereon severally and individually shall also be submitted. Kindly refer to the Institute website **www.iitkgp.ac.in** [link: Tenders] for complete tender details. The same is also available in the CPP Portal [<https://eprocure.gov.in/epublish/app>]. If there is any corrigendum/addendum, it shall only be published on Institute’s Website and Central Public Procurement Portal.

The tender is to be sent in a sealed packet, containing two separate sealed envelopes (one each for **Technical Bid and Price Bid**) along with prescribed **tender fee and EMD** to the Office of **Materials Science Center, Indian Institute of Technology Kharagpur, P.O. Kharagpur Technology, PIN 721302, West Bengal, India.**

The technical bid will be evaluated first and price bids will be opened in respect of those OEMs/Vendors, who are found technically qualified after evaluation of Technical bids. Date for opening price bids will be intimated later.

**Earnest money of Rs. 15,000/-** is to be deposited in the form of Account payee Demand Draft in favour of IIT Kharagpur, payable at Kharagpur, India.

**Head of the Center**  
**Materials Science Center**  
**IIT Kharagpur**

Copy to :-

1. **Head, Institute Information Cell**
2. **Chairman Purchase Committee**
3. **Joint Registrar (Store and Purchase)**
4. **Notice Board**
5. **CPP Portal**
6. **Institute Website**
7. **Guard File**



## INSTITUTE OF TECHNOLOGY KHARAGPUR

### SCHEDULE OF EVENTS

Tender Reference	IIT/MSC/ENQ/SBM/5/2018-19 Dated:08.10.2018
Tender fee	Rs 1,000
Earnest Money Deposit(EMD)	Rs.15,000
Last Date and Time for submitting the tender document	30 <sup>th</sup> November, 2018 at 4 PM
Time and Date of Opening of Technical Bids	3 <sup>rd</sup> December, 2018 at 4 PM
Place of Opening tender offers	Materials Science Center Indian Institute of Technology Kharagpur, West Bengal, INDIA, PIN-721302
Address of Communication	As stated above
Contact Telephone Numbers	Phone: +91 - 3222 - 283986 (O)
E-mail:	<a href="mailto:subhasish@matsc.iitkgp.ac.in">subhasish@matsc.iitkgp.ac.in</a>

Note : Exemption of submission of Tender fee and Earnest Money Deposit(EMD) will be considered as per Government of India rule.

## Technical Specifications of "INTEGRAL CELL/BATTERY IMPACT CRUSH NAIL PENETRATION MACHINE"

Integral cell/battery impact crush and nail penetration machine is required to investigate the safety parameters of Li and Na ion rechargeable cells or battery module for Materials Science Center, IIT Kharagpur. The essential features of the machine with other allied details are given as follows.

### Required Feature:

- It is desired to procure a 3 in one safety test unit. However, in case of non-availability of a 3 in one system, separate crush, impact and nail penetration test units may be quoted in a single quotation.
- The wire must be enclosed with metal fireproof cover to prevent the flame during testing process.
- Lighting system must be included
- Nail Penetration/Crush Velocity with controllable range of 10~80 mm/s
- Nail Penetration/Crush Force controllable within range from 250N to 13 kN, to meet different standards
- Control system should employ independent control cabinet & separated with the test chamber with a distance of 1-2 meter, to reduce the noise and improve safety.

### The equipment must follow the standard compliance:

#### Impact Test Standard

UL1642 Lithium Batteries

UL2054-2005 Household and Commercial Batteries

UN38.3 Lithium ion battery safety testing

GB/T 18287-2000 General specification of lithium-ion battery for cellular phone

SJ/T 11169-1998 Standard for lithium batteries

YD 1268- 2003 the safety specification and test method for lithium batteries and charger

SJ/T 11170-1998 Standard for household and commercial batteries

#### Crush Test Standard:

GB/T 2900.11-1988 Terminology of (secondary) cell or battery: crush

YD 1268- 2003 the safety specification and test method for lithium batteries and charger: crush

SJ/T 11169-1998 Standard for lithium batteries: crush

UL 1642 Lithium batteries: crush

GB/T 8897.4-2002 Primary batteries-Part 4: Safety of lithium batteries

SJ/T 11170-1998 Standard for household and commercial batteries- crush test

YDB 032-2009 Back-up lithium-ion battery for telecommunications

UL 2054 Household and Commercial Batteries

QB/T 2502-2000 General specification of lithium-ion battery

#### Nail penetration standard:

GB/T 18332.2-2001 Nickel-metal hydrate batteries of electric road vehicles nail penetrations

MT/T 1051-2007 Lithium-ion batteries for cap lamp nail penetration test

### Specification of the equipment:

Pressure: 20 kN

Max. Displacement: 200 mm

Testing Space: 300 x 300 x 300 mm (as desired) or bigger

External Dimension: W1480 x D720 x H2040 mm (as desired) or as compatible.

Control Cabinet Dimension: W500 x D500 x H1200 mm (as desired) or as compatible.

**Crush, Nail Penetration Technical Parameters**

Crush/Nail Penetration Speed: 0 ~ 80 mm/min (Controllable)

Crush/Nail Penetration Range: 0 – 300 mm

Structure: Vertical

Testing Condition: Applied force of 13KN, once the maximum pressure has been obtained it is to be released.

Crush/Nail Penetration Method: Vertical

Crush/Nail Penetration Deformation: No

Crush/Nail Penetration remaining time: 0~99 hours (desired)

Driven Method: Hydraulic

Crush/Nail Penetration Accuracy:  $\pm 1\%$  or better

High Temp. Resistant Steel Needles Diameter: 3mm~ $\phi 8$ mm (desired)

Nail Penetration Speed Accuracy:  $\pm 0.1$ mm/sec or better

**Crush Technical Parameters:**

Driven Method: Electric, free falling

Steel bar Diameter: 15.8 mm or 7.9 mm

Structure: Vertical

Testing Condition: The weight can be raised to a certain height and release while ensure the weight without inclination or swing in free drop.

Dropping Method: Free Falling

Accuracy:  $\pm 1\%$  (or better)

**Structure:**

Structure: Chamber Independent vertical test machine and control system

Crush Fixture: Flat crush tray, select different fixture according different standard

Nail Penetrate Fixture: Customize

**Standard Configuration (desirable):**

Crush nail penetration impact integrated machine 1set, control cabinet 1set,

Crush tray 1 set (min.)

High temperature resistance steel needle diameters  $\phi 3$ mm~ $\phi 8$ mm 1set (min.)

Fix battery fixture 1 set (min.)

Steel bar 1 piece (min.)

Testing Fixture Customize according to actual size

Power Source: AC380V 50HZ Three Phase or single phase as applicable

Working Environment: 0°C~45°C

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**Technical Terms and Conditions:**

1. The system must be completed in all respects and the manufacturer or representative must ensure complete integration of all sub-system with cables, connectors as required and take responsibility of service and supply spares.
  2. The equipment should be provided with a **COMPREHENSIVE WARRANTY** period of Three (3) Years from the date of Installation & Commissioning and date of acceptance against all manufacturing defects and faulty workmanship.
  3. The firm should have supplied a minimum of 5nosof **INTEGRAL CELL/BATTERY IMPACT CRUSH NAIL PENETRATION MACHINE**to the reputed institutes/R&D laboratories in the last five years. List of the consumers with their correspondence address (with e-mail ID, phone and fax numbers) has to be provided by the vendor.
  4. The vendor should undertake to service and supply the necessary spares for the**INTEGRAL CELL/BATTERY IMPACT CRUSH NAIL PENETRATION MACHINE** for a period of seven years beyond the warranty period.
  5. Spare parts and optional accessories may be quoted separately.
  6. Compliance of all the listed specifications/terms and conditions sheet should be indicated on a separate sheet
  7. Firm must have an Indian based service support structure.
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**GENERAL TERMS AND CONDITIONS**

- 1) **Last Date of Submission of Sealed Bids (both technical and price bids, separately):**  
**30.11. 2018 up to 4.00 P.M.**

**The Technical bids will be opened on 3.12.2018 at 4.00 P.M. in the New Seminar Room of Materials Science Center, I.I.T. Kharagpur, India.**

- 2) **Payment Terms & Performance Bank Guarantee (PBG):** 90% payment will be made on submission of shipping documents and balance 10% payment will be made on installation, commissioning and submission of PBG for performance period if the payment is made by LC, otherwise 90% will be released after receipt of stores and 10% after successful installation and submission of PBG for the performance period. The security deposit so retained may be refunded on submission of Bank Guarantee towards Performance Guarantee valid for **3 years throughout comprehensive warranty period plus sixty days** drawn on any commercial bank.

No advance/mobilization support, is payable against supply of stores.

In the event of failure to deliver the stores beyond the specified date, liquidated damages @ 1% per month or part thereof in respect of the value of stores will be deducted, subject to a maximum of 5%; alternately the order will be cancelled and the undelivered stores purchased from elsewhere at the risk and expense of the vendor.

- 3) **Warranty/Guarantee & On-site skill support:** **Three years** onsite comprehensive OEM warranty from the date of successful installation and commissioning. The firm has to guarantee supply of spares for a minimum period of 10 years. **The OEMs/Authorized Distributors and Dealers must attach certificate about their after sales and service facilities with Technical Bids**, escalation support for on-call service or station engineer etc.
- 4) **Earnest Money Deposit (EMD):** An amount of **Rs. 15,000/-** (Rupees fifteen thousand only) in the form of Demand Draft drawn in favour of “**IIT Kharagpur**”, payable at Kharagpur.

**E.M.D. should be enclosed separately in an envelope and stapled with the Technical Bid document superscribing EMD.** The validity of the EMD should be 3 (three) months from the date of issue. **Any bid without EMD will summarily be rejected. No interest is payable on EMD.** EMD will be refunded to the unsuccessful bidder after finalization of the tender process. No interest is payable on Security Deposit. Security Deposit shall be forfeited if the selected vendor after award of contract, fails to execute the same.

- 5) **Tender Fee:** An amount of **INR 1,000** (Rupees One thousand only) as tender fee (non-refundable) is to be paid. The payment shall be made by Demand Draft from any Nationalized Bank /Commercial Bank and paid in favour of “**Indian Institute of Technology Kharagpur**”, payable at Kharagpur. **Bids without Tender Fee will not be accepted. This should be enclosed separately in an envelope and stapled with the Technical Bid document superscribing Tender fee.**

Note : Exemption of submission of Tender fee and Earnest Money Deposit (EMD) will be considered as per Government of India rule.

6) **Delivery of Stores:** The store items are to be supplied within 30 days from the date of receipt of the Purchase Order or from opening of LC whichever is later.

7) **Price :**

PRICE may be quoted either in INR or in foreign currency.

Where tenderer intends to quote in Indian Rupees (INR), the price should be quoted "FOR IIT Kharagpur" basis. The price should be all inclusive including GST.

IIT Kharagpur is registered DSIR, Govt. of India. GST rate for scientific goods is 5% as per the Notification No. 47/2017-Integrated Tax (Rate) dated 14th November, 2017. Necessary certificate in this regard will be issued as per requirement and on request of the successful bidder. Where tenderer intends to quote in foreign currency FCA/FOB source port price by Air/Sea to be quoted. In case of comparison between FOR IIT Kharagpur (quoted in INR) and FOB/FCA price (quoted in foreign currency) 20% will be added on FOB/FCA price after conversion to INR.

IIT Kharagpur is registered DSIR, Govt. of India and eligible for exemption for payment of Customs Duties in Terms of Government of India Notification No.51/96-Customs dated 23.07.96. Necessary certificate in this regard will be issued as per requirement and on request of the successful bidder.

- (i) Agency Commission, if any will be paid to the Indian agents in Rupees on receipt of the equipment and after satisfactory installation. Agency Commission will not be paid in foreign currency under any circumstances.
- (ii) The unit prices should be for the same unit as indicated in the Schedule to tender enquiry and not for any other unit.
- (iii) Prices quoted should be for supply, installation and commissioning at I.I.T. Kharagpur.
- (iv) Discount, if any, should be indicated separately/prominently.
- (v) Offers should normally be on fixed and firm price basis. Any clause making price variation will not be acceptable.

8) **Bid:** Technical Bid and Price Bid should be submitted in two separate sealed envelopes quoting reference number on the top of the envelope. Tender Fee and EMD should be enclosed with the Technical Bid documents, in separate sealed envelopes, stapled with the packet containing Technical Bid documents. The OEMs may either bid directly or Country/Regional/State Distributors /Dealers/Vendors, to quote authorized with valid authorization certificate, capability to sale and service of the products.

9) **Acceptance of Tender:** The Authority of IIT Kharagpur does not bind itself to accept the lowest priced bid and reserves the right to reject any or the entire tender bids received without assigning any reason thereof.

10) The addendum/corrigendum if any shall be published on Institute's Website i.e. [www.iitkgp.ac.in](http://www.iitkgp.ac.in) and on CPP Portal.

11) The Bidders are requested to submit the bids after issue of clarifications only considering the changes made if any. Bidders are totally responsible for incorporating/complying the changes/amendments issued if any, in their bid.

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- 12) **Extra Features:** If the bidder provides any other extra features on the Hardware or Software which are not mentioned in the tender product specifications, then that shall be highlighted in clear terms, with documentary evidence/literature.
  - 13) **Compliance List:** The proposal should be properly indexed and a compliance list against the technical specifications should be provided.
  - 14) **Service:** Response to ensure quality of services, the deputed Engineer from the OEM/Vendor shall have a minimum of 2 years of experience in the relevant field and must be in the payroll of the OEM/Vendor.
  - 15) **Installation and Commissioning:** Free of cost at IIT, Kharagpur. The OEM must ensure timely installation of “**INTEGRAL CELL/BATTERY IMPACT CRUSH NAIL PENETRATION MACHINE**”, with necessary support to the indenters, as per details and lists to be made available by the Stores & Purchase Section or the indenting Departments/Centres/Schools.
  - 16) **Validity of licenses:** Software’s licensing price or policy (if any) shall be clearly mentioned.
    - a) All licenses should be perpetual
    - b) All the accessories shall be from the same OEM
  - 15) The OEM should be an ISO-9000 and ISO-14001 certified company with due credits to energy conservation and green earth compliance.
  - 16) **Relevant documents of the OEM shall be enclosed, along with the Technical Bid. Any explanation on this account shall be supported with documentary evidence from the principals.**
  - 17) **Conditional Offer** will not be accepted.
  - 18) **Period of Validity:** Bids shall remain valid for acceptance for a **period of 90 days** from the date of opening of the price bid.
  - 19) The benefit of any downward price revision (revision on account of budget/financial policy, tax revision, EPZ etc.) is to be given to IIT Kharagpur by the selected OEM/vendor.
  - 20) **Past Performance of the Vendors will be judged at the time of Technical Evaluation.**
  - 21) **The Institute does not bind** itself to offer any explanation to those bidders whose technical bids have not been found acceptable by the Technical Evaluation Committee of the Institute.
  - 22) **Bidders should** enclose the following documents:
    - i. Certificate of Registration / Trade License
    - ii. Attested copy of PAN card and GST registration papers
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- iii. Authorized Distributors/Vendors must submit **two separate** appropriate authorization certificates and letters from their OEMs, for **(i) participation in the said tender and (ii) to submit the bids in favour of OEM (to be attached with technical bids)**
- iv. Name and address of past satisfactory suppliers or minimum three clients to whom such items/stores have been supplied should be mentioned in the technical bid.
- v. Copy of mandatory test reports, national testing/reliability and endurance test reports etc., certified or conducted at the manufacturing site, granted by the bureaus/quality control departments/national testing laboratories.
- vi. Copy of product literature, for which the prices have been quoted.
- vii. A write up on service and maintenance capability, mitigation of risks or breakdown and replacement capability, with the escalation support matrix suggested for the Institute. Vendors must indicate their sales and support service centre in India and their plan to address issues about services, maintaining minimum service inventory etc.
- viii. Signed copy of the tender document, with company seal, agreeing to the terms & conditions and declaration should be provided.
- ix. **Proforma Price Bid (without mentioning the price rate) may be attached with technical bids**
- x. **Port of Shipment and Country of origin: Should be mentioned in the quotation.**
- xi. **Purchase order to be placed on: Should be mentioned in the quotation with full address.**
- xii. The OEMs/Vendors need to submit a certificate that they are not currently debarred or blacklisted in IIT Kharagpur or in any national organization or educational institute / university for any supplies, products or services,.

23) **All tenders are to be handed over in a sealed box in the Office of the Materials Science Center, IIT Kharagpur-721302.** The bids (technical and price bids) once submitted shall be the property of the Institute and shall not be returned to the vendor in future. **For speed post, the Postal Address is “Office of the Materials Science Center, IIT Kharagpur-721302”**

24) **Opening of Price Bids:** The Price Bid(s) of only those vendor(s) who are found technically qualified will be opened and the same will be opened before the technically qualified vendor(s). **The date for opening of price bids will be notified separately.**

25) Tenderer or his/her authorized representative (with proper authorization letter for attending opening of technical bids and also for opening of price bids) may choose to be present at the time of opening of Technical Bids/Price Bids.

## 26) **IMPORTANT**

I. Director may accept or reject any or all the bids in part or in full without assigning any reason and does not bind himself to accept the lowest bid. The Institute at its discretion may change the quantity/upgrade the criteria/drop any item or part thereof at any time before placing the Purchase Order.

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II. A bid submitted with false information will not only be rejected but also the OEM/ vendor will be debarred from participation in future tendering process.

III. In case of any dispute, the decision of the Director of this Institute shall be final and binding on the bidders.

IV. For any query pertaining to this bid document, correspondence is to be addressed to the End user:

Prof. S.B. Majumder  
Materials Science Center,  
Indian Institute of Technology  
Kharagpur- 721302, West Bengal, India  
[Ph:+91-03222- 283986]  
Email:- subhasish@matsc.iitkgp.ac.in

V. In case the due date for opening tender happens to be a holiday, the same will be opened on the next working day. The timings will however remain unchanged. Please Note that the Institute remains closed on Saturday & Sunday.

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## Annexure-III

### INSTRUCTIONS & SPECIAL CONDITIONS

(To be returned by Tenderer along with the Tender duly signed)

1. **GENERAL:** Tenderer(s), who are Indian Agents of OEMs should furnish a clear declaration as follows: We declare that I am/we are Accredited Agents of the suppliers aboard. DGS&D enlistment certificate needs to be attached (applicable only for the Indian Agents)
  2. **DEVIATION FROM SPECIFICATIONS:** It is in the interest of the tenderer to study the specifications in the tender schedule thoroughly before quoting so that, if the tenderer makes any deviations, the same are prominently brought out in the body of the tender. If you need to add any optional items to your system in order to meet our specifications, you are requested to quote for the total including the option required to suit our requirements. Otherwise, your tender will not be considered at all.
  3. **TENDERERS SHALL SUBMIT ALONG WITH THEIR TENDER:**
    - (i) Complete address and tele links for contact persons of principals and Indian agent offices dealing with this purchase.
    - (ii) Name and full address of the OEM's Banker and their swift code.
    - (iii) Port of shipment and Country of origin is to be provided for each item.
    - (iv) Purchase order to be placed on: Should be mentioned in the quotation with full address
  4. **PERFORMANCE BANK GUARANTEE:** On behalf of the Principal, Indian Agent must be able to provide Performance Bank Guarantee of the amount equivalent to the 10% of the cost of equipment from any Nationalized Bank. The Performance Bank Guarantee is required for the entire period of Warranty. Performance Bank Guarantee must remain valid for a period sixty days beyond the expiry of the Warranty Period. Bid security will be refunded back on submission of performance Security.
  5. **GUARANTEE:** The tenderer has to declare that the goods sold to the buyer under this contract shall be of the best quality and workmanship and shall be strictly in accordance with the specifications.
  6. **JURISDICTION:** All questions, disputes, or differences arising under, out of or in connection with the contract, if concluded, shall be subject to the exclusive jurisdiction at the place from which the acceptance of Tender is issued i.e. Jurisdiction of KOLKATA HIGH COURT. Acceptance to this effect is also necessary at the time of opening of Technical Bid.
  7. **ACKNOWLEDGMENT:** It is hereby acknowledged that we have gone through all the points listed under "Instructions & Special Conditions" outlined above, and those in the accompanying note on "Important Conditions", and we agree to abide by them under the penalty of permanent disqualification for Tender participation and for related penal actions for non-abidance of the conditions.
  8. Interested vendors must be able to supply adequate spares and consumable during **three years of comprehensive warranty**. Vendor should also ensure trouble free service and performance for another **seven years beyond three years Comprehensive Warranty Period** with adequate spares and accessories.
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TECHNICAL BID DOCUMENT

**FORMAT TO BE FILLED BY THE MANUFACTURERS/ INDIAN AGENTS (ON BEHALF OF THEIR FOREIGN PRINCIPALS) OR THEIR AUTHORIZED COUNTRY DISTRIBUTORS/ REPRESENTING DEALERS/ REGIONAL AGENCIES, SUBMITTING TENDER FOR SUPPLY OF “INTEGRAL CELL/BATTERY IMPACT CRUSH NAIL PENETRATION MACHINE”FOR IIT KHARAGPUR (MATERIALS SCIENCE CENTER)**

1. Name of the Tenderer :
2. Status of the Tenderer: (attach documents, if registered company/partnership/proprietyship)
3. Whether OEM/representing foreign principle :  
(attach copy of certificate/authorization)
4. Details of key top official/authorized official:  
(attach details)
5. Details of tie-ups for supply/services, if any:  
(Attach details, agreements, escalation matrix)
6. Income Tax returns of previous three assessment year (copy) :
7. Current list/address of clients where similar material has been supplied and successfully working:
8. Name of the vendor's three largest clients, to whom similar products and services were extended & amount of transaction/annual bills to such clients :
9. Income Tax Permanent A/c No.(attach copy):
10. GST registration No.(attach copy):
11. Details of Tender Fee:
12. Details of EMD:

Certified that all above information are correct to the best of my/our information, knowledge and belief.

-----Dated  
Signature & Seal of the Authorized person of OEM/Vendor

**NOTE: This is to be submitted in a separate sealed envelope** super scribing “TECHNICAL BID”, Notice inviting Tender No.IIT/MSC/ENQ/SBM/5/2018-19,**Date: 09.11.2018**and name of the bidder. All technical documents like literature, catalogues, etc., are to be put in the same envelope. Price bid of that company/firm only will be opened which do technically qualify, for further consideration. **Attach all relevant documents in the same serial order as above, properly indexed, duly signed and sealed.**

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**DECLARATION**

1. I, -----Son /Daughter of Shri -----  
-----Proprietor/Partner/CEO/MD/Director/ Authorized  
Signatory of M/s.-----am competent to sign  
this declaration and execute this tender document.

2. I have carefully read and understood all the terms and conditions of the tender and hereby convey my acceptance of the same.
3. The information/ documents furnished along with the above application are true and authentic to the best of my knowledge and belief.
4. I/we am/are well aware of the fact that furnishing of any false information/ fabricated document would lead to rejection of my tender at any stage besides liabilities towards prosecution under appropriate law.
5. Each page of the tender document and papers submitted by my Company is authenticated, sealed and signed, and I take full responsibility for the entire documents submitted.

----- Signature of the Authorized

Person Date: ----- Full Name: -----

Place: ----- Company Seal: -----

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