



I.I.T

Indian Institute of Technology, Kanpur

Kalyanpur, Kanpur – Uttar Pradesh

208016

Tender Reference No.: IITK/EE/AS/2019/02

Bid submission end date – 2 September 2019

Tender documents for

“Purchase of IoT-development boards and lab testing instruments for IoT lab at Smart Grid Control Centre IIT Kanpur”.

BID DOCUMENT

Online bids from eligible bidders which are valid for a period of 60 days from the date of bid opening (i.e. 3 September 2019, 3:30 PM) are invited for and on behalf of the joint registrar, IIT, Kanpur for “**Purchase of IoT-development boards and lab testing instruments for IoT lab at Smart Grid Control Centre IIT Kanpur**”.

<i>Name of Work</i>	<i>Purchase of IoT-development boards and lab testing instruments for IoT lab.</i>
<i>Estimated Cost</i>	<i>6.5 Lacs</i>
<i>Date of Publishing</i>	<i>5 August 2019, 5:30 PM</i>
<i>Clarification Start Date and Time</i>	<i>7 August 2019, 5:30 PM</i>
<i>Clarification End Date and Time</i>	<i>22 August 2019, 5:30 PM</i>
<i>Queries (if any)</i>	--
<i>Bid Submission Start Date</i>	--
<i>Last Date and time of uploading of Bids</i>	<i>2 September 2019, 3:30 PM</i>
<i>Last Date and time of submitting, EMD at IIT Kanpur.</i>	<i>3 September 2019, 1:30 PM</i>
<i>Date and time of opening of Technical Bids</i>	<i>3 September 2019, 3:30 PM</i>
<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 and condition 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 (UR: <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) 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 0512-2595420 (smartcity@yahoo.co.in) 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 Registration, GST & Bank details.**
- II. Scanned copy of work experience.**
- III. Scanned copy of details of turn over during last three years**
- IV. Scanned copy of bank solvency**
- V. Scanned copy of EPF and ESI certificate**
- VI. Scanned copy of Technical specifications (details) of all components mentioned for IoT laboratory and testing lab instruments in this tender document.**

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. All payment shall be made in Indian Rupees.
- 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 120 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 120 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.

**INDIAN INSTITUTE OF TECHNOLOGY, KANPUR
ELECTRICAL ENGINEERING DEPARTMENT**

Tender Notice

Tender Reference No: IITK/EE/AS/2019/02

Date : 2 August 2019

E-tender /Online bids are invited for reputed firms from eligible bidders for the **“Purchase of IoT-development boards and lab testing instruments for IoT lab at Smart Grid Control Center IIT Kanpur”**

The tenders for the purchase of items are invited on two-bid system (technical and financial). The technical bid and financial bid will have to be upload technical and financial bids separately. The financial bid of only technically qualified bidders will be opened.

The scanned copies of the online bids complete in all respects should be uploaded online and Demand draft of **Rs. 13,000/-** towards Bid Security/ Earnest Money Deposit (EMD) in favour of **“Registrar, IIT Kanpur”** must reach **Dr. Ankush Sharma, ACES-105, Department of Electrical Engineering, IIT Kanpur-208016** latest by **01:00 PM** Hrs on the bid opening day i.e. **2 September 2019, 1:30 PM**

The tender document along with other details may be downloaded from the CPP Portal:

<http://eprocure.gov.in/eprocure/app>

IIT Kanpur reserves the right to accept or reject any or all the tenders without assigning any reasons thereof.

Date:

Sd/-
Joint Registrar

Contents

- I. Notice inviting tender
- II. General details of the tender
- III. Technical details of the components required for IoT Laboratory and lab testing instruments.
- IV. Guarantee Performa

**INDIAN INSTITUTE OF TECHNOLOGY, KANPUR
DEPARTMENT OF ELECTRICAL ENGINEERING**

I. NOTICE INVITING TENDER

Item rate tenders are invited on behalf of the DORD, Indian Institute of Technology Kanpur from eligible original equipment manufacturer or their authorised dealers/agencies of lab testing instruments for the following work “**Purchase of IoT-development boards and lab testing instruments for IoT lab at Smart Grid Control Centre IIT Kanpur**”.

1. The estimated cost of work is **Rs. 6.5 Lacs (only)**. This estimate, however, is given merely as a rough guide.

2. Technical Bid Evaluation

A. Criteria of eligibility

1. The Tenderer should have completed satisfactorily at least *3 similar works each of value 40% of the estimated cost or *2 similar works of 50% of the estimated cost or *1 similar work of 80% of estimated cost during the last 7 (seven) years. (at least one work of them should be in Central Govt. /Central Autonomous bodies/ Central PSU/State PSU / State Govt.).
2. Details of average annual financial turnover on similar works should be at least 100% of the estimated cost during the last 3 consecutive financial years.
3. List of works completed of the requisite magnitude along with the attested copies of certificates of satisfactory completion. Having GST, ESI & EPF registration No. of government authorities.

B. Technical Evaluation

1. The tenderer should upload the signed Technical specifications (details) of items, which shall meet the desired requirements as per specified parameter in the tender.
3. Tenderer shall quote rates as per various terms and conditions of the said form which will form part of the agreement.
4. The tender proceedings dates are given on page no. 2 of this tender document.

Note: In pre-bid meeting, the doubts of the indenting bidders shall be clarified. Discussion on any additional technical/suggestion proposed by the bidders are also welcomed, which may be included by the committee in the tender.

5. Tender documents consisting of specifications, of the various classes of items to be purchased and the set of terms and conditions of contract to be compiled with by the contractor whose tender may be accepted and other necessary documents can be seen in the office of DR, Stores and Purchase, IIT Kanpur between 1100 hrs. and 1700 hrs on all working days before the last date of receipt of the tender.
6. The tender shall be accompanied by earnest money of **Rs. 13,000/- (Rs. Thirteen Thousands only)** in the form of Receipt Demand Draft in favour of “**Registrar, IIT Kanpur**”. The offers received without earnest money or not in the prescribed form shall be rejected summarily. No interest shall be paid on the earnest money.

7. The Director/DORD/PI, IIT Kanpur does not bind himself to accept the lowest or any other tender, and reserves to himself the authority to reject any or all of the tenders received without the assignment of a reason. All tenders in which any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected.
8. The Director/DORD/PI, IIT Kanpur reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
9. Tenders, which do not fulfill all or any of the conditions stipulated in the tender document or are incomplete in any respect, are liable for rejection. Tenderers shall sign the declaration in **Annexure – A** enclosed, and if the declaration is not found to represent a true statement of facts, the contract is liable to be cancelled, earnest money forfeited, and the contractor shall have no claim on the Institute.
10. The tenderers are not allowed to make additions and alterations in the tender document. Such additions and alterations shall be at tenderers' risk. Conditional / modified tenders are liable to be rejected.
11. The tender for the work shall remain open for acceptance for a period of 90 (ninety) days from the date of opening of tenders. If any tenderer withdraws his tender before the said period or makes any modifications in the terms and conditions of the tender which are not acceptable to the department, then the Institute shall, without prejudice to any other right or remedy, be at liberty to forfeit 50 (fifty) % of the said earnest money as aforesaid.
12. This notice inviting tender shall form a part of the contract document. The successful tenderer / contractor, on acceptance of his tender by the Accepting Authority, shall within 15 (fifteen) days from the stipulated date of start of the work sign the contract consisting of:
 - a. The notice inviting tender, all the documents including General Conditions of Contract, Special Conditions, specifications forming the tender as issued at the time of invitation of tender, letter of negotiation and acceptance thereof together with any correspondence leading thereto.
13. **Payment shall be regulated as under:**
 - a) 90% of the tendered rate on successful delivery of the items listed in the tender document.
 - b) 10% after 2 months of the successful delivery of the items.

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**For and on behalf of
DORD, IIT Kanpur**

II. GENERAL DETAILS OF TENDER

BoQ: Bill of Quantities is uploaded separately.

Name of Work: **“Purchase of IoT-development boards and lab testing instruments for IoT lab at Smart Grid Control Centre IIT Kanpur”**.

i) Estimated Cost of the work : **Rs 6.5 Lacs.**
 ii) Earnest Money : **Rs 13,000/-**

Officer inviting tender : PI, Dept. of EE, IIT Kanpur

Definitions:

1. Engineer-in-charge : PI (Project Investigator)
 2. Tender accepting authority : Director / DORD / PI, IIT Kanpur.
 3. Standard Schedule of Rates : Market Rate for all Items
 4. Department : Dept. of EE, IIT Kanpur.

i) Time allowed for **submission of performance** guarantee from the date of issue of letter of acceptance, in days. : 15 Days.

ii) Maximum allowable extension beyond the period provided in (i) above in days : 7 (seven) days.

iii) Authority for fixing compensation : PI (Project Investigator)
 Number of days from the date of issue of letter of acceptance for reckoning date of start : 22 Days.

5. **Time allowed for execution of work** : **30 days_**

Authority to decide:

i) Extension of time for completion of work. : PI, Dept. of EE, IIT Kanpur
 ii) Rescheduling of mile stones : DORD, IIT Kanpur

MINIMUM TECHNICAL SPECIFICATIONS OF THE COMPONENTS REQUIRED FOR IoT LAB AND LAB TESTING INSTRUMENTS

This tender document lists the development boards and lab testing instruments to be purchased for IoT lab. Minimum desired technical specifications are mentioned below.

1. Internet of things

The internet of things is a network of physical objects – vehicle, machines, home appliances, and more – that uses sensors and wireless technologies to connect and exchange data over the internet. A new market research report published the global Internet of Things (IoT) market size to grow exponential from \$5.1 billion in 2019, to \$16.2 billion by 2024. Utilizing internet of things technology in Smart Grid is important approach in speeding up the information transmission of power grid system, and it is beneficial for effective management of the power grid infrastructure. Disaster prevention and reduction of power transmission line is one of the most important application fields of IoT. Advance sensing and communication technologies lines, improve the reliability of power transmission and reduce economic loss.

Purpose of this lab is to provide hands-on experience of IoT systems to the participants and a platform for IoT researchers to develop IoT based solution to address real life problems.

2. Major Components Requirement (Non-consumables)

2.1 This section includes the necessary instruments for electronics work bench of IoT lab.

Sr. No.	Lab Instruments	Qty.
1.	3D printer (Dremell Digilab 3D45)	1
2.	Digital microscope for circuit inspection. Description: Digital microscope for circuit inspection with: Portable USB microscope resolution at 1600x1200, 1-200X zoom and adjustable light source.	1
3.	Lab bench DC power supplies Description: Lab Bench variable DC power supply: Programmable 2 channel each capable of outputting up to 30V and current up to 3A.	2
4.	Autotransformer based variable AC supplies Description: Autotransformer based variable AC supply (0-270 V, 15 A) table top model.	2
5.	Function generator Description: Arbitrary Function generator: dual-channel 25Mhz bandwidth with 1mVpp to 10Vpp output, 14 bit vertical resolution and 1 μ Hz frequency resolution.	1
6.	Logic Analyzer Description: Logic analyzer: Analog discovery 2 (100 Ms/sec USB logic analyzer).	1
7.	Alfa AWUS036NH b/g/n Wi-Fi adapter	2
8.	Racco cabinets (30 deep transparent drawers) for storage of electronics component.	2

3. Major Requirements (Consumables)

3.1 This table contains list of IoT development boards

Sr. No.	Development Boards	Qty.
1.	Altera V cyclone SoC Dev kits	2
2.	Intel MAX 10 FPGA Development Kit	2
3.	Arduino MKR 1000 Wi-Fi	2
4.	Texas instruments MSP430 microcontroller development board	3
5.	Texas instruments CC2650 Launchpad	2
6.	Texas instruments CC2642 BLE Launchpad	3
7.	Texas instruments CC1312 R1 simple link	3
8.	ESP- Eye	3
9.	ST Stm32 Stm32F4 Stm32F407 MCU Discovery Board	2
10.	Intel Edison with Arduino extension board	2
11.	Re-Speaker core V2 Seeed Studio	2

III. TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)
(Annexure-A)

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/ organization 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/ organization 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.**

IV. Guarantee Performa for the items purchased for IoT Laboratory (Annexure 'B')

We hereby guarantee the year-round performance for **Purchase of IoT-development boards and lab testing instruments for IoT lab at Smart Grid Control Centre IIT Kanpur**, which we have installed at the location described below:

LOCATION - Smart Grid Control Centre (SGCC), IIT Kanpur

For a period of **1 year (One year)** from the date of acceptance of the components asked in tender document of IoT lab. We agree to repair or replace free of cost to the satisfaction of the owner / PI, any or all such work that may prove defective in workmanship, equipment or materials within that period, ordinary wear and tear and unusual abuse or neglect excluded, together with any other work, which may be damaged or displaced in so doing.

Signature of Contractor:

Date:

Seal:

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