**NATIONAL INSTITUTE OF PLANT GENOME RESEARCH**

(An Autonomous Research Institution of the Department of Biotechnology
Ministry of Science and Technology, Govt. of India)
Aruna Asaf Ali Marg, New Delhi – 110 067
Phone: 26735139, 26735141 Fax: 26741658, 26741146

**TENDER NOTICE**
**Tender No. 8/11/2018-19/NIPGR/S&P**

Online tenders (in two bid system) are invited on behalf of the Director, NIPGR from manufactures or their authorized dealer for the Supply, Installation, Testing & Commissioning of 01 no. of HPTLC System at NIPGR Campus, Aruna Asaf Ali Marg, New Delhi 110067.

| Sl.No. | Estimated Cost (in ₹) | EMD (in ₹) | Time for Completion | Last Date & Time for Sale of Tender Documents | Date & Time of Opening of Tenders |
|---|---|---|---|---|---|
| 1 | 180 Lakhs | 3.60 Lakhs | 12 Weeks | 18/09/2018 1500 Hrs. | 19/09/2018 1500 Hrs. |

The Earnest Money should be deposited in the form of Demand Draft drawn in favour of the Director, NIPGR, payable at New Delhi so as to reach the undersigned latest by 18/09/2018 (3.00 P.M). The Tender documents and detailed specifications can be obtained in person by the interested firms from the Purchase-Cum-Store Officer, NIPGR, during office hours against non-refundable cash payment of ₹ 1500.00 (Rs. One thousand five hundred only) as mentioned above from 29/08/2018 to 18/09/2018 upto 1500 hrs. The tender document is available on eprocure.gov.in and can also be downloaded **free of cost** from our website: **www.nipgr.ac.in**

The Director, NIPGR, reserves the right to accept or reject all or any of the bids without assigning any reasons thereof.

**Purchase cum Stores Officer**

**TENDER DOCUMENTS**

**Name of Work: Supply, Installation, Testing & Commissioning of 01 no. of HPTLC System at NIPGR Campus, New Delhi**

Owner: Director, NIPGR, Aruna Asaf Ali Marg, New Delhi – 110 067

Tender Issued to: _____

_____

_____

Place for submission/
Place of opening tender document: Purchase Section
NIPGR,
Aruna Asaf Ali Marg,
New Delhi-110067

Last date & time for sale of Tender Documents: 18/09/2018 up to 15:00 hrs.

Date & Time of opening of Technical Bid: 19/09/2018 at 15:00 hrs.

**COST OF TENDER DOCUMENT: ₹ 1500.00 (Non-refundable)**

Purchase cum Stores Officer
NIPGR, New Delhi

**TENDER FORM**

To

The Director
NIPGR,
ARUNA ASAF ALI MARG,
New Delhi

Dear Sir,

I/We have read and examined the following Tender Documents relating to the **Supply, installation, testing and commissioning of HPTLC System at National Institute of Plant Genome Research, Aruna Asaf Ali Marg, New Delhi 110067**.

- General Conditions
- Instructions to bidders
- General Information
- Specific condition of contract
- Terms and Conditions of Contract Agreement
- Special Terms and conditions of Contract
- Technical specification and Bill of Quantities
- Price Bid

I/We hereby offer to execute the work complete in all respects specified in the underwritten Memorandum within the time specified therein, at the rates specified in the Price Bid and in accordance with the specifications, designs, drawings and instructions in writing referred to in the conditions of tender.

**Tenderers Signature and Seal**

## GENERAL CONDITIONS

1. Online tenders are hereby invited from manufacturers/ authorized dealers for the **Supply, installation, testing and commissioning of HPTLC System at National Institute of Plant Genome Research, Aruna Asaf Ali Marg, New Delhi 110067**.

   The tender document consists of General Conditions, Instructions to bidders, General Information, Tender form, Terms and Conditions of Contract Agreement, Special Terms and conditions of Contract, Technical specification and Price Bid which can be obtained at a cost of ₹ 1500.00 (Rs. One thousand five hundred only) (Non-refundable) in cash from 29/08/2018 to 18/09/2018 from the Purchase-cum-Stores Officer at NIPGR, Aruna Asaf Ali Marg, New Delhi. The tender document can also be downloaded from our website: www.nipgr.ac.in **free of cost**. The tender document is obligatory on the part of the tenderers & bid in no other form will be accepted.

2. The time allowed for the supply, testing and commissioning of above equipments is 12 weeks from the date of written Supply order.

3. Every tender shall be accompanied by earnest money of ₹ 3.60 lakhs in the form of Demand Draft drawn in favour of the "Director, NIPGR" payable at New Delhi. Any tender not accompanied by such earnest money will be rejected straight away.

4. The Tenderer will submit his tender in prescribed format after examining the tender documents, scope of work, specific conditions of contract, Instructions to bidders, General Information, Terms and Conditions of contract agreement, technical specification, Price Bid, special terms and conditions of contract, specific conditions of contract.

5. The offer shall remain valid for 180 days from the date of opening of Tender.

6. The tenderer shall submit a copy of the latest Sales tax clearance certificate along-with the copies of the audited balance sheets of the past three years.

7. If a tenderer whose tender is accepted fails to undertake the work as per terms of the contract within 10 days to be reckoned from the date of issue of award letter, the earnest Money deposited will be forfeited.

8. NIPGR does not bind itself to accept the lowest or any tender and reserves the right to reject any or all tenders without assigning any reason.

9. NIPGR will not pay any expense, whatsoever incurred by tenderer for the preparation and submission of tenders.

10. The notice inviting tender, will form part of the contract agreement to be executed by the successful tenderer with the NIPGR.

11. All the correspondence on the tender shall be addressed to the Director, NIPGR, Aruna Asaf Ali Marg, New Delhi and any communication addressed to anyone else shall not in any manner to be binding upon the NIPGR, Aruna Asaf Ali Marg, New Delhi.

**Tenderers Signature with Seal** **Purchase cum Stores Officer**

# INSTRUCTIONS TO BIDDERS

## 1. GENERAL INSTRUCTIONS:

The items referred here-in shall cover the entire scope of the proposal which includes supplying and installation of the equipment including the successful completion and the tests which the NIPGR desires testing and commissioning shall be carried out.

## 2. TENDERERS TO STUDY ENTIRE TENDER DOCUMENT CAREFULLY:

Submission of a tender by a tenderer implies that he has read all the stipulations contained in this tender document and has acquainted himself of the nature, scope and specifications of the items to be followed.

## 3. TENDERER TO SUBMIT THE ENTIRE TENDER DOCUMENT:

The tenderer shall submit all documents issued to him for the purpose of this tender after duly filling the same in all respects. Tenders which are found to be vague or incomplete shall be rejected summarily.

## 4. TENDER SHALL BE WRITTEN IN ENGLISH LANGUAGE:

Every tender shall be written in English language. All information such as documents and drawings supplied by the tenderer will also be in the English language only. Drawings and designs shall be dimensioned according to the metric system of measurements. Tenders shall be forwarded under cover or a letter type written on the tenderer's letter-head and duly signed by the tenderer. Signatures must be in long hand, executed in ink by a duly authorized principal of the tendering firm. No oral, telegraphic or telephonic tenders or subsequent modifications there-to shall be entertained; If a tender is submitted on behalf of the firm, then all the partners shall sign or may be signed by one in whose favour all the partners have given General Power Of Attorney. In case of tender submitted by a company, it shall be signed by one who has been authorized by the Board of Directors through a resolution. Copy of resolution and the authority letter in favour of the person signing must accompany the tender.

## 5. VALIDITY PERIOD OF OFFERS:

The rates quoted in the tender shall hold good for 180 days from the date of opening of the tender. The validity period shall be extendable with the mutual consent of both the parties. No tenderer can withdraw/or modify his tender or revoke the same within the said period of 180 days. If a tenderer on his own withdraws or revokes the tender or revises or alters or modifies the tender for any item or condition within a period of aforesaid 180 days his earnest money deposit shall stand forfeited.

## 6. TENDERER TO SIGN ALL PAGES:

The tenderer shall stamp and sign at the bottom right hand corner of every page of the tender documents in token of acceptance of tender conditions and for the purpose of identification.

## 7. ERASERES AND ALTERATIONS:

Tenders containing erasures and alterations of the tender documents are liable to be rejected unless these are authenticated by the person signing the Tender Documents.

## 8. TENDERER TO SATISFY HIMSELF OF SITE CONDITIONS:

Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tender regarding nature of the site conditions, the means of access of the site, the accommodation they may require and in general obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender in any manner. A tenderer shall be deemed to have full knowledge of the site, whether he inspects it or not and no compensation or otherwise of any charges incurred or to be incurred consequent on any misunderstanding or otherwise shall be admissible.

## 9. EARNEST MONEY:

The tender shall be accompanied by earnest money of ₹ 3.60 lakhs in the form of Demand Draft only drawn in favour of the Director, NIPGR payable at New Delhi. Earnest money of the unsuccessful bidder(s) shall be refunded after expiry of the validity period of the tenders/placement of Supply Order whichever is earlier. In case of the Successful tenderer the earnest money shall be adjusted against performance security.

## 10. TENDERER TO QUOTE BOTH IN FIGURES AND WORDS:

The bidder shall quote their rates for all the items both in figures as well as words given as per the attached format of Price bid. The amount of each item shall be worked out and the requisite total given. Special care shall be taken to write percentage in figures and words, and the amount in figures only in such a way that interpolation is not possible. The total amount shall be written both in figures and in words.

## 11. TENDER LIABLE TO REJECTION:

Tenders which do not fulfill all or any of the conditions laid down in this notice, or contain conditions not covered and / or not contemplated by the Conditions of tender document and/or expressly prohibited therein or stipulate additional/alternative conditions shall be liable to be rejected and his earnest money will be forfeited.

Tenders shall also be liable for rejection on any of the following grounds:-

i) Tenders containing remarks uncalled for.
iii) Conditional tenders
iv) Tenders not submitted on prescribed Performa.
v) Telegraphic/Fax/Postal tenders.
vi) Tender submitted without EMD.

**13. CORRESPONDENCE:**

Tenderers must mention their postal address and telephone number(s) of the Chief Executive/authorized agent or attorney in the tender. The tender submitted by the tenderer will be rejected if he or his agent cannot be contacted on the last known address or on the intimated telephone number(s) after reasonable search in which event earnest money may be forfeited by the NIPGR.

**14. NIPGR NOT TO ASSIGN ANY REASON FOR REJECTION OF TENDER:**

Director, NIPGR hold absolute discretion to accept or reject the lowest or any other tender without assigning any reason. No claim on this account shall be entertained.

**15. AMENDMENT IN TENDER DOCUMENTS:**

NIPGR reserves the right to revise or amend the Bid Documents upto the date prior to the date notified for opening of the tenders and also the right to postpone the date of submission and opening of tenders without assigning any reason, whatsoever.

**NIPGR also reserves the right to change the quantities of the units while issuing the letter of award of work.**

**16. REFERENCE IN TENDER DOCUMENTS:**

Director, NIPGR, shall be referred as "Owner" in all the documents of Tender documents/contract agreement.

**17. SCIENTIST INCHARGE**

Where ever the word "Scientist Incharge" occurs it shall mean the authorized Scientist appointed by the NIPGR for the superintendence of the execution of related works.

**Tenderers Signature with Seal** **Purchase cum Stores Officer**

## GENERAL INFORMATION

| | | |
|---|---|---|
| 1. | Accepting Authority | Director, NIPGR, New Delhi. |
| 2. | Earnest Money | ₹ 3.60 lakhs (Rs. Three lakh sixty thousand only) to be furnished with the tender in the form of the Demand draft in favour of "Director, NIPGR" payable at New Delhi. (No interest is payable on this deposit) |
| 3. | Security Deposit | The EMD submitted by successful tenderer shall be treated as part of performance security deposit. |
| 4. | Performance Security | The successful tenderer shall be required to deposit an amount equal to 10% of the tender value of the contract as Performance Security after adjusting the Security Deposit within 10 days from the date of issue of award letter. Performance Security may be deposited in the form of Demand Draft or Bank Guarantee from State Bank of India or any Scheduled bank. |
| 5. | Authority competent to grant extension of time | Director, NIPGR. |
| 6. | Tools & Plants | To be arranged by Tenderer |
| 7. | Authority competent to reduce the Compensation amount | Director, NIPGR |
| 8. | Defect Liability/warranty period | **60 months from the date of installation and acceptance by the NIPGR** |
| 9. | Authority Competent to Appoint Arbitrator | Director, NIPGR |
| 10. | Release of Security Deposit | The Performance Security shall be released after completion of the defect liability period. |

**Tenderers Signature with Seal**

## Specific Conditions of Contract

1. **Scope of work**: The scope of work generally consist of providing of HPTLC System as described in the equipment specifications of the tender documents. The supplier shall carryout and complete the work under the contract in every respect in accordance with this tenders documents and under directions & to the entire satisfaction of the Scientist-In-Charge. If any item of the work to be executed is not covered under specification, the same shall be executed as decided by the Scientist-In-Charge.

   It is not the intent to specify completely herein all aspect of design and constructional features of equipment and details of work to be carried out, nevertheless, the equipment and work shall confirm in all respect to high standard of engineering, design and workmanship and shall be capable of performing in continuous commercial operation in a manner acceptable to the Scientist-In-Charge, who will interpret the meaning of the specifications and drawings and shall have the right to reject or accept any work or material, which in his assessment is not complete to meet the requirements of the specifications and or applicable code, and standards mentioned elsewhere in the specifications.

2. **Operation & Maintenance manuals**: Prior to completion of the work and handing over the HPTLC System, the supplier shall submit 3 sets of following details:

   i) Comprehensive operation instructions, preventive and routine maintenance schedules
   ii) Manufacturer's equipment catalogues and operating & maintenance instructions
   iii) Electrical control diagrams, piping scheme diagrams
   iii) List of recommended spare parts with spare part codes, specifications & source of procurements.

   **Supplier to provide all for testing**: The supplier shall provide and pay for all necessary tools, instruments gadgets and testing equipment required for conducting various tests. Any defects in material and / or in workmanship detected during initial testing shall be rectified by the supplier at his own cost. Initial testing shall be carried out in the presence of Scientist-In-Charge or his representative to his entire satisfaction. The installation shall be commissioned after approval by Scientist-In-Charge.

3. **Virtual completion**: On satisfactory completion of initial testing and commissioning, the installation shall be put to continuous running test for a period of 2 days for the purpose of taking over. Any defect in material and/ or in workmanship detected in the course of testing shall be rectified by the supplier at his own cost to the entire satisfaction of the Scientist-In-Charge. The test shall be repeated after removal of defects. After successful completion of above tests, the equipment shall be taken over.

4. **Guarantee & Defect liability period**: The equipment covered by this contract shall be guaranteed by the supplier against faulty material and workmanship for a period of 60 months from the date of virtual completion and taking over the installation. Any part found defective shall be replaced free of all costs by the supplier. The supplier shall guarantee that all equipment shall work satisfactorily and that the performance and efficiency of the equipment shall not be less than the specified values. If performance

of equipment during guarantee period is not found satisfactory, the guarantee period will be extended till satisfactory performance is established for further period of reasonable time decided by NIPGR. The services of the supplier's personnel if requisitioned during the defect liability period shall be made available free of any cost to NIPGR. If the defects noticed during the guarantee period are not remedial within a reasonable time and / or some equipment or system as a whole remain out of order for a total period of one month (4 weeks) (Unless or otherwise extended) NIPGR shall have the right to remedy the defects at the supplier's risk & cost without prejudice to any other rights.

5. **Maintenance**: During the guarantee & defect liability period, the supplier shall provide at no extra cost necessary material and personal to carry out the repairs & routine maintenance of equipment. The supplier shall attend to all problems experienced in the operation of the system within a reasonable time but not more than 48 Hrs. of receiving the complaint and take corrective action immediately.

6. **Training of Personnel at site**: In order to enable NIPGR's staff to get acquainted with the operation and maintenance of the Equipment, the supplier at no extra cost to NIPGR shall train the departmental personnel during the period of installation, testing, commission and prior to virtual completion and taking over by NIPGR.

7. **Storage of materials & safe custody**: Lockable storage space, if available shall be made available to the supplier by NIPGR. However, the supplier shall be responsible for watch & ward and safe custody of his equipment and installation till they are formally taken over by NIPGR. Non-availability of lockable storage space due to any reasons shall not relieve the supplier of his contractual obligations in any way.

8. **Completion period**: All work of installation, testing, commissioning and handing over of the HPTLC System in accordance with this contract shall be completed within the stipulated period or within the extended time as has been allowed by the Institute.

9. The supplier/manufacturer should ensure timely service and calibration of machine for successful installation and satisfactory operation.

**Tenderers Signature with Seal**

## TERMS & CONDITIONS OF CONTRCT AGREEMENT

### SECURITY DEPOSIT

1. The earnest money amounting of ₹ 3.60 lakhs will be treated as part of performance security deposit of the successful tenderer.

### COMPENSATION CLAUSE

2. The time allowed for carrying out the work as entered in the tender shall be strictly observed by the Tenderer, and shall be reckoned from the day of the date on which the order to commence the work is given to the Tenderer. The Tenderer shall prepare and submit the details of delivery and installation for the execution of the said work within ten days of award of work for approval of the Scientist Incharge, NIPGR. The work on the contract shall be executed according to the approved schedule as aforesaid and shall throughout the stipulated period of the contract be proceeded with all due diligence (time being deemed to be the essence of the contract on the part of the Tenderer) **and the Tenderer shall pay as compensation an amount equal to one percent or such smaller amount as Scientist Incharge, NIPGR may decide on the value of work as per contract**, for every week that the work remains un-commenced or unfinished after the dates mutually agreed upon by the parties. Further to ensure good progress during the execution of the work, the Tenderer shall be bound in all cases in which the time allowed for any work exceeds one month to complete one fourth of the whole of the work before one fourth of the whole time allowed under the contract has elapsed, one half of work before one half of such time has elapsed and three fourth of the work before three fourth of such time has elapsed. In the event of the Tenderer failing to comply with this condition he shall be liable to pay as compensation an amount equal to one percent or such smaller amount as the Scientist Incharge, NIPGR, may decide of the value of balance work for everyday that the due quantity of work remains incomplete. Provided always that the entire amount of compensation to be paid under the provisions of this clause shall not exceed ten percent of the awarded cost of work as shown in the tender. The Director, NIPGR, on a representation from the Tenderer, is however, empowered to reduce the amount of compensation and his decision in writing shall be final.

### TIME EXTENSION

3. If the Tenderer shall desire an extension of the time limit for completion of the work on the grounds of his having been unavoidably hindered in its execution or on any other ground he shall apply in writing to the Scientist Incharge, NIPGR within 10 days of the date of the hindrance on account of which he desires such extensions as aforesaid but before the expiry of time limit and the Scientist Incharge, if in his opinion(which shall be final) reasonable grounds as shown thereof ,authorized such extension of time if any, as may, in his opinion be necessary or proper.

### COMPLETION

4. Without prejudice to the rights of Scientist Incharge under any clause hereinafter contained on completion of the work, the Tenderer shall be furnished with a certificate

by the Scientist Incharge or his representative of such completion, but no such certificate shall be given nor shall the work be considered to be complete until the Tenderer shall have removed from the premises on which the work has been executed, all surplus materials and rubbish, and cleaning off the dirt from all doors, walls, floors, or any other parts of buildings said to have been completed, and the measurements in the said certificate shall be binding and conclusive against the Tenderer, if the Tenderer shall fail to comply with the requirements of this clause as to the removal of scaffolding, surplus materials, and rubbish and cleaning off dirt on or before the date fixed for the completion of the work, Scientist Incharge, NIPGR may at the expense of the Tenderer have removed such scaffolding ,surplus materials and rubbish and dispose of the same as he thinks fit and clean off such dirt as aforesaid and the Tenderer shall forth with pay the amount of all expenses so incurred, and shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any such sale proceeds actually realized by the sale thereof.

**ARBITRATION**

5. Except where otherwise provided in the contract all questions and disputes relating to the meaning of the specifications, designs , drawings and instructions here in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim , right, matter or thing whatsoever, in any arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works, or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the person selected from out of a panel of names to be supplied upon a request in writing by party invoking the arbitration by the Director, NIPGR, at the time of the dispute. It will be no objection to any such appointment that the arbitrator so appointed was associated with the work and that he had to deal with the matters to which the contract relates and that in the course of his duties in association with the Scientist Incharge, NIPGR, he had expressed views on all or any of the matters in dispute or difference. The arbitrator to whom the matter is originally referred being unable to act for any reason, the Director shall appoint another person to act as arbitrator in accordance with the terms of the contract. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor. It is also a term of this contract that no person other than a person appointed by the Director as aforesaid shall act as arbitrator. In all cases where the amount of the claim in dispute is ₹ 50000/- (Rs. Fifty thousand only)or above, the arbitrator shall give reasons for the award. Subject as aforesaid the provisions of Arbitration and Cancellation Act 1996 or any statutory modifications or reenactment thereof and the rules framed there under and for the time being in force shall apply to the arbitration proceeding under this clause. It is also a term of the contract that while invoking arbitration the party invoking arbitration shall specify the dispute or disputes to be referred to arbitration under this clause together with the amount or amounts claimed in respect of each such dispute. It is also a term of the contract that if a party does not make any demand for arbitration in respect of any claim(s) in writing within 90 days of receiving the intimation from the Scientist Incharge that the bill is ready for payment, the claim if any, shall be deemed to have been waived and absolutely barred

and the owner shall be discharged and released of all liabilities under the contract in respect of these claims.

## CARRYING OUT OF WORK

6. All the work shall be carried out strictly and in accordance with the specifications given in the tender to the total satisfaction of the Scientist Incharge. In the case of an item for which specification are not available in the said specifications relevant BIS specifications applicable as on the date of tenders shall be followed.

## INSPECTION OF WORK

7. All work under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of Scientist Incharge, NIPGR or his subordinate in-charge of the work and the Tenderer shall at all times, during the usual working hours and at all other times at which reasonable notice of the intention of the Scientist Incharge to visit the works shall have been given to the Tenderer, either himself be present to receive order and instructions or have a responsible agent duly accredited in writing present for that purpose. Orders given to the Tenderer's agent shall be considered to have the same force as if they had been given to the Tenderer himself.

## INSURANCE

8. The following insurance cover is to be provided by the Tenderer in the joint names of the employer and the Tenderer for the period from the start date till completion of entire work.
   a) Cover against damage to other people's property caused by the
   b) Tenderer's acts or omission;
   c) Cover against death or injury caused by the Tenderer's acts or omission to:
      i) Anyone authorized to be on the site;
      ii) Third parties who are not on the site;

9. No Escalation in rates shall be paid.

10. The Tenderer shall provide all necessary superintendence during execution of the work and as along thereafter as may be necessary for proper fulfilling of the obligations under the contract.

11. The tenderer must visit the site at NIPGR campus, Aruna Asaf Ali Marg, New Delhi - 110067 before quoting the rates.

12. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the Tenderers who resort to canvassing will be liable to rejection.

13. The rates quoted for foreign equipments shall be CIF/CIP New Delhi.

14. The rates for Local equipments shall be inclusive of all taxes, octroi, cartage etc., and nothing extra will be paid.

15. No T&P will be issued by the department.

16. The final payment shall be made only after completion of the work subject to certification by Scientist –in- Charge.

17. The site of work is at NIPGR Campus, Aruna Asaf Ali Marg, New Delhi – 110067.

18. The **Technical specifications** of the equipments required are detailed at page **22 -25** of this Tender Document.

19. Installation, Testing & Commissioning of the supplied equipments will be done at our site by the bidder in the presence of Scientist-in-Charge of our Institute.

**Tenderers Signature with Seal**

## SPECIAL TERMS AND CONDITIONS OF CONTRACT

### 1. TENDERER TO BE LIABLE FOR ALL TAXES ETC.

The rates specified in the tender shall be CIF/CIP New Delhi/ FOR NIPGR and inclusive of all taxes, duties and other charges etc., in respect of the contract and the rates shall be firm irrespective of any variation in the prevailing rates of taxes, levies, octroi, etc., and any fresh imposition of any of these by State/Central/Statuary bodies. The supplier shall indemnify the Director against levy of any taxes, etc., in regard to this contract and in the event of the Director being assessed for any of the said imports, Director shall have the right to recover the total amount so assessed from the supplier's dues and the supplier shall also be responsible for all costs or expenses that may be incurred by Director in connection with any proceedings or limitation in respect of the same. We are eligible for concessional tax (rate) exemption under notification no. 45/2017- Central tax (rate)/Union territory tax (rate) & 47/2017 – Integrated tax (rate) dated 14/11/2017 and fall under the category of Public funded research institution.

### 2. FORCE MAJEURE:

The right of the Tenderer to proceed with the work shall not be terminated because of any delay in the completion of the work due to unforeseeable causes beyond the control and without the fault or negligence of the Tenderer, including not limited to acts of God, or of the public enemy, restraints of a sovereign state, firms, floods, unusually severe weather.

### 3. JURISDICTION:

Not with standing any other courts having jurisdiction to decide the questions forming subject matter of a suit any and all actions and proceedings arising out of or relative to this contract (including any arbitration in terms thereof) shall lie only in the court of competent Civil jurisdiction in this behalf at New Delhi., where this contract is to be signed on behalf of Director, NIPGR and only the said court shall have jurisdiction to try any such actions and/or proceedings to the exclusion of all other courts.

### 4. SCOPE OF WORK:

The scope of work is as per enclosed details. The Tenderer should note that during the preparation of detailed working drawings, according to which the Tenderer has to execute the work covered under this contract, may undergo changes. The scope drawings for the entire work are not enclosed, but only a few indicating the probable nature of construction are attached. The scope of work is thus not limited only to the details.

### 5. Scientist Incharge Role:

The Scientist Incharge shall carry out general supervision and direction of the work. He/she has authority to stop the work. Whenever he/she considering such stoppage necessary to ensure the proper execution of the work. He/she shall also have authority to inspect and reject all work and materials, which do not conform to the specifications and to direct the application of Tenderer's forces to any portion of the work, as in

his/her judgment is required, and to order the said force increased or diminished and to decide questions which arise in the execution of the work.
The Scientist Incharge shall have the right to suspend the work or part thereof at any time and no claim whatsoever on this account shall be entertained. In case of any clarification the Tenderer may appeal to the Director, NIPGR whose decision shall be final and binding on the Tenderer. The above inspection shall, however, not relieve the Tenderer of his responsibilities in regards to defective materials or workmanship and the necessity for rectifying or replacing the same.

**6. TENDERER'S RESPONSIBILITY FOR THE MANNER OF EXECUTION OF WORKS**

The Tenderer shall be solely responsible for the manner and the method of executing the work. The work shall be subject to the approval of Scientist Incharge from time to time for purposes of determination of the question whether the work is executed by the Tenderer in accordance with the contract.

**7. SUBMISSION OF BILLS:**

Tenderer is to submit the bills in triplicate along with delivery challans to the Scientist Incharge for works executed by him. Payment will be released on completion of entire work subject to certification by the Scientist Incharge.

**8. ACTION AND COMPENSATION PAYABLE IN CASE OF BAD WORK:**

If it shall appear to Scientist Incharge, NIPGR or his representatives, that any work has been executed with unsound, imperfect or unskillful workmanship or with materials of any inferior description or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to the contracted for, or otherwise not in accordance with the contract specifications the Tenderer shall on demand in writing from the Scientist Incharge specifying the work materials, articles complained or not with-standing that the same have been inadvertently passed, certified and paid for, forthwith rectify or remove and reconstruct the work so specified in whole or in part as the case may require, or as the case, remove the materials or articles so specified and provide other and suitable materials or articles so specified at his own cost and in the event of his failing to do so within a period to be specified by the Scientist Incharge in his demand aforesaid, then the Tenderer shall be liable to pay compensation at the rate of one percent on the amount of the estimate for every day not exceeding ten days while his failure to do so that continue and in the case of any such failure Scientist Incharge, NIPGR may rectify or remove, and re-execute the work or remove and replace with other materials or articles complained of, as the case may be at risk and expenses in all respects of the Tenderer.

**9.** It shall always prevail, unless otherwise specifically stated, that the entire provisions of Tender document been opened upon and accepted for compliance by the Tenderer without any reservation.

**10. Exemption of Customs Duty and Excise Duty**

The NIPGR is exempted from payment of Custom Duty and Excise Duty for supply of equipments etc. vide Govt. of India Notification No. 51/96 dt. 23/07/1996. Since the Customs Duty/ Excise Duty and clearance charges will be borne by the Institute, Bidders are requested to quote their rates accordingly. However it will be the responsibility of the Supplier to shift the equipment to site of work including opening of crates, transportation, loading and unloading. Nothing extra will be paid on any account.

**11. Terms of payment**

100% of the equipments value against irrevocable LC on receipt of order acknowledgement and Performance Guarantee/Security from Principles of supplier or their Indian Agent subject to fulfillment of condition at Sl.No. **4** under General Information. In case of the payment in Indian Rupees, payments shall be released upon successful/satisfactory installation of the equipment.

**12.** Bidder should provide quotations directly enclosed from the manufacturer.

**13.** Bidder providing misleading or wrong information will be disqualified.

**14.** Bidder will support all the claims by product catalogue, public website of the manufacturer.

**15.** The Tender Compliance Sheet attached with the tender document should be properly filled with complete details.

**Tenderers Signature with Seal**

## Instructions for Online Bid Submission

1. The tender documents are available on our website www.nipgr.ac.in **& www.eprocure.gov.in** and same can be downloaded.

2. Tender documents may be downloaded from ITPO's website www.nipgr.ac.in and CPPP site https://eprocure.gov.in/eprocure/app as per the schedule as given in the tender document.

3. Bids shall be submitted online only at CPPP website: https://eprocure.gov.in/eprocure/app. Tenderers/Contractors are advised to follow the instructions provided in the 'Instructions to the Contractors/Tenderer for the esubmission of the bids online through the Central Public Procurement Portal for eProcurement at https://eprocure.gov.in/eprocure/app**'.** Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.

4. Not more than one tender shall be submitted by one contactor or contractors having business relationship. Under no circumstance will father and his son(s) or other close relations who have business relationship with one another (i.e when one or more partner(s)/director(s) are common) be allowed to tender for the same contract as separate competitors. A breach of this condition will render the tenders of both parities liable to rejection.

5. The bidders are advised to visit CPPP website https://eprocure.gov.in/eprocure/app at least 3 days prior to closing date of submission of tender for any corrigendum / addendum/ amendment.

6. Bids will be opened as per date/time as mentioned in the **Tender Document.** After online opening and evaluation of technical bids, the results of their qualification as well Price-Bid opening will be intimated later.

**Submission of Tender**

The tender shall be submitted online in two parts, viz., Technical bid and Financial bid.

All the pages of bid being submitted must be sequentially numbered by the bidder irrespective of nature of content of the documents before uploading.

The offers submitted by Post/Fax/email shall not be considered. No correspondence will be entertained in this matter.

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, 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.

More information useful for submitting online bids on the CPP Portal may be obtained at: https://eprocure.gov.in/eprocure/app**.**

## REGISTRATION

1) 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 Enrolment**" on the CPP Portal which is free of charge.

2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.

3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.

4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra/ Nic etc.), with their profile.

5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.

6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

## 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

Bidder should take into account any corrigendum published on the tender document before submitting their bids.

1) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please 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.

2) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.

3) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, GST Certificate etc.) has been provided to the bidders. Bidders can use "My Space" or ''Other Important Documents'' area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

**SUBMISSION OF BIDS**

1) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.

3) Bidder has to select the payment option as "offline" to pay the tender fee / EMD as applicable and enter details of the instrument.

4) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official before bid opening date/time as mentioned in critical date sheet or as specified in the tender documents. The details of the DD/any other accepted instrument, 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.

5) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

6) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

7) All the documents being submitted by the bidders would be encrypted using PKI 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. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

8) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.

9) Upon the successful and timely submission of bids (i.e after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

10) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

**ASSISTANCE TO BIDDERS**

1) 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 contact person indicated in the tender.

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 contact number for the helpdesk is 1800 3070 2232, 91-7878007972 and 91-7878007973.

**Technical Specification for supply, installation of Integrated High Performance Thin Layer Chromatography (HPTLC) system (Quantity of Unit – 01 No.)**

Integrated High Performance Thin Layer Chromatography (HPTLC) system for quantification, identification, finger printing and micro-preparative separations of plant secondary metabolites with TLC-MS interface for direct mass analysis on TLC plate with following items: automated TLC applicator, Scanner, UV cabinet, photo-documentation, TLC plate heater, TLC chamber, software, computer system, printer, UPS, nitrogen cylinder with regulator

1. **AUTOMATIC TLC/HPTLC SAMPLER**

   Fully automatic TLC sample application, 4$^{th}$ generation and stand alone or with system manager control. It should have 6 mode applicator for 1) Quantitative analysis 2) Micro-preparative chromatography (190mm band length & any vol. selectable) 3) Superimpose – internal standard or derivatization reagent in same method 4) in-situ clean-up (sample application at 110mm on y axis) 5) Rectangular application for fast application for aqueous samples 6) heated nozzle blowing hot nitrogen on samples for quick drying. Accepts sample syringes 10, 25 and 100µl with fixed or removable needles. Can be used as aid for mobile phase development. Min. application volume 10µl.

2. **GRADIENT AUTOMATIC MULTIPLE DEVELOPMENT CHAMBER**

   PC controlled chromatogram developing chamber and its control module. Upto 25 times stepwise multiple gradient development in same direction must be possible. Use of upto 5 solvents to make gradient. Plate drying time must be 1 – 5 min. Gas phase equilibration after every step must be possible. Mobile phase front monitoring by CCD must be possible. Vacuum sensor must be built in. Gradient display on screen, validation software + self-diagnostics built-in. Vacuum connector, Optional link to system manager, Vacuum pump is required

3. **AUTOMATIC DEVELOPING CHAMBER WITH HUMIDITY CONTROL**

   Automatic Developing Chamber for fully automatic development of TLC and HPTLC plates 20 x 20 cm, 20 x 10 cm and 10 x 10 cm (glass, plastic, aluminum). Development in 20 x 10 cm twin trough chamber must be possible. Solvent front detection by CCD must be possible. Activity and preconditioning of the layer, chamber saturation, developing distance and final drying can be pre-set and automatically controlled by the system. Sensor monitored humidity control must be present, which allows reproducible chromatography at defined activity of the layer.

4. **TLC / HPTLC SCANNER WITH DATA EVALUTION :**

   System Manager controlled Scanner / Densitometer for automatic spectrum scanning for identity check as well as purity check; Automatic quantitative measurement by absorbance & fluorescence; All TLC / HPTLC plate sizes must be acceptable; Scan speed 100mm/sec @ 25µm resolution; Wavelength range 190-900 nm; Monochromator flushing by nitrogen; Data sampling rate – 4000 / sec; Special Macro optics for TLC & Micro optics for HPTLC. Spectrum scan speed 100 nm / sec; Max 999 spectra / plate; Visible pilot slit image / scan compartment illumination with UV to check sample alignment with scan beam; D2, Hg, W lamps must be built-in. Plate can be easily placed inside scanner

   Data evaluation 32 bit software (latest version), Good S/N ratio. High reproducibility; Controlled by system Manager, automatic / manual data integration, Auto baseline correction. Spot check facility. 3D display with data storage and auto calculation of each peak at its $\lambda$max. Calibration - single level, multilevel, linear / non-linear. Statistics CV / CI. Reproducibility check facility. Auto calculation of data from wts and dil. factors must be present. Lamp use

tracking. Service Dialog + Self Diagnostics + Tutorial all built – in. Meets GLP. Optional IQ-OQ and 21 CFR Rule 11 certification.

**5. ESSENTIAL SOFTWARE FOR SCANNER**

a. Spectrum Scanning option
b. Scanner Quantification
c. Multi Wavelength evaluation: Measures, stores and calculates automatically quantitative results from upto 30 wavelengths. Data stored & 3-D displayed in 3 ways. Colour plots of data. Automatic quantification with respect to λ max of separated fractions, in absorption & fluorescence mode.
d. Spectrum Library: Facility to create your own library. All files searched automatically for λ max as well as Rf.

**6. <u>PROFESSIONAL TLC / HPTLC PHOTODOCUMENTATION SYSTEM under GLP :</u>**

For fully automated image documentation at 254nm, 366nm and visible light. Illumination Unit, Industrial Camera and HPTLC specific software must be present.

a. **Illumination unit** – with 254 + 366 nm UV and Visible light (from above & below the plate). Uniform illumination. 60 KHz supply for instant, flickerless illumination. Easy access for changing tubes & filters and PCB. Auto switch off. Total darkness. Viewing window to observe plate in UV. Safety - UV switched off if door opened.

b. **Camera** 48 bit, high resolution industrial camera head (248 grey level resolution). Images of the highest quality. True colour capture. Very linear response. Individually calibrated. Camera head must be PC operated and does not have any controls. Image data and report through system manager software only, with ability to generate tamper proof data.

c. HPTLC Specific Software – Automatic image optimization, exposure time to suit brightest zone within dynamic range of CCD. Full function annotation. $R_f$ scale. Child image with or w/o ROI (Region of Interest) blow up. Auto image capture at 254nm and or 366nm and/or white light. Spot application tool to detect faintest fractions. High speed data transfer, control by system manager. Options to process the image. High Resolution Documentation software for IQ-OQ, performance check, clean plate correction, image averaging, image subtraction, white adjust and flat field corrections. Very useful to create the best possible image for evaluation.

d. Image comparison viewer software:– Allows comparison of different tracks from different plates under GLP. A must for accurate comparison. Extremely user friendly. Can create artificial plate with relevant data.

**7. <u>HPTLC/TLC – MS Interface 2 :</u>**

HPTLC interface for MS- rapid and contamination free elution of TLC/ HPTLC zones with online transfer to MS for guaranteed substance identification. Plug and play with most mass spectrometers. Elution into vials for further analysis e.g. NMR, IR and other MS techniques. Oval head for elution built-in. Circular head optional. Improved elution head and easily exchangeable filter before switch valve. Push button cleaning of elution path by compressed gas to prevent clogging. Laser for alignment of elution head and zone. Plate table with scale. Adjustable plate stopper. Suitable for glass and aluminum foil backed plates. 4 bar N2 required. Pump for Elution solvent required (50-300 µl / flow min.)

**8. TLC / HPTLC PLATE HEATER**

For in-situ derivatization and layer activation, stain resistant ceran glass top; temp range 25 to $200^0$C. Uniform heating of plate. Digital display of set & actual temperature. Display remains on as long as plate is hot. Upto 20 x 20 cm size plates.

**9. CHROMATOGRAPHY VISUALISATION : UV CABINET**

Latest model of dual wavelength 254 nm + 366 nm with guaranteed minimum intensity, as follows : UV lamp at 17 cm distance. Short wave UV (254 nm) 1600, long wave (366 nm) 1000, Visible light (<400nm) 0.4. Full protection to viewer's eyes and skin from UV light for safety. High tech 50 kHz power supply for flickerless, instant illumination. Auto switch off after 10 min. Thermal sensor and tilt sensor built in for user safety

**10. DERIVATIZER**

Must have micro-droplet spraying technology for derivatization of TLC plates, highly homogeneous reagent distribution through optimized droplet size, recommended settings for the most common derivatization reagents, safe and environmentally friendly operation through closed system, intuitive handling and easy cleaning. Both 20x20cm & 20x10cm TLC/HPTLC plates compatible with 2ml derivitization reagent consumption for 20x10cm plates & 4ml for 20x20cm plates

11. **HPTLC SOFTWARE** –

The software must be new generation, single software to link, control, integrate, manage the instrument for application, development, scanning and image documentation. Guides the user through chromatography steps with sample oriented approach. Numerous method library available for internet download for lifetime. Client-server system for flexibility. The software must have powerful database tracks for individual samples and ensure data integrity. Several tools for System Suitability Test. Built-in automatic back-up and restore tool for data. Produces a comprehensive GLP compliant analysis report with instrument, analyst, date, time, place, method parameters etc. and complete details. It should communicate in both directions with instruments and stores infinite number of methods and downloads them to instruments, when called for. It must be GLP compliant and 3rd generation

**12. ACCESSORIES:**

Workstation, Printer (Heavy duty, Color and Auto duplex) and UPS must be provided – (1 nos) The processing PC should have the following minimum configuration or better: Precision T7910 XL processor: E5-2667 v3 (8C HT, 20MB Cache, 3.2GHz Turbo); RAM: 32GB (4x8GB) 2133MHz DDR4 RDIMM ECC; 4x2TB SATA 7.2k RPM HDD; 512MB NVIDIA Quadro NVS 310 (2DP). Monitor: 27 inches; Microsoft Office: compatible version with the operating system.

5 KVa UPS or better with 1hr power backup for HPTLC.

2 nos of $N_2$ cylinder with double stage regulator

Chromatogram Development Chambers

a. All glass molded, one piece, bubble free chamber for TLC/ HPTLC. Bottom divided into two equal halves with a sloping divider. Chamber top and bottoms (both outside the chamber and inside the two troughs) should be perfectly parallel to each other. Chamber ground finish on top for good seal and at bottom for perfect level. Heavy chamber to minimise effects of vibration. One piece joint less moulded chambers

prevent leakage and tough to handle while cleaning. Stainless steel, rust proof lid with overhang to completely seal the chamber.

b. 20x20 cm, - 5 nos
c. 20x10 cm – 5 nos
d. 10x10 cm.- 10 nos

TLC precoated plates 20 X 20 cm silica gel F254 on Al foil – 5 Box
TLC Cutter 2 nos

**General conditions: -**

1. Demonstration of various specifications should be given by the successful bidder.
2. Analysis support: Since we deal with complex samples, support for analysis should be given by the vendor by sending their application specialist, free of costs during the warranty period
3. Equipment should be future proof and manufacturer is expected to offer upgrade whenever available rather than change models.

**Training**:

1. Complete systems should be installed and commissioned at NIPGR. After successful installation selected scientific/technical personnel from NIPGR should be provided with hands-on and in-depth training on the operation and maintenance of the system as well as specific application training by factory engineers and application specialists for not less than 30 days.
2. A live demo and analysis of our samples must be done by bidders at their cost.
3. Only Principal/Manufacturer should quote.
4. All specification must be supported by the official brochures from the company.
5. Only those bids/offers with the complete specifications mentioned above will be considered.
6. Since HPTLC are very sensitive equipment and requires regular servicing and support for smooth functioning of the facility, user's feedback as deemed by competent authority may be taken. Based on the user's feedback the competent authority reserves the right to reject the bid submitted.

**Warranty period:**

1. 5 Year comprehensive warranty should be quoted for the whole instrument and parts. Comprehensive warranty should be provided by principal equipment manufacturer and for all other related accessories including but not limited to third party supplies.
2. Instruments must be attended within 48 hr in case of any breakdown. The uptime for the facility should be 95% per year or more.
3. Two preventive maintenances for the complete platform should be performed every year during the warranty period.

**Optional:**

**1. SEMI AUTOMATIC SPOT / BAND APPLICATOR (OPTIONAL ITEM)**

Sprays sample to layer. Stand alone or System Manager Control. 4 mode applicator 1) Quantitative analysis 2) Micro-preparative chromatography (190mm band length & 500µl sample in one go) 3) Superimpose – int. std.or derivatization reagent in same method 4) in – situ clean-up (sample application at 110mm on y axis). Sample syringe – 100µl (for analytical work) 500µl (for micropreparative work). Sample position on X & Y axis freely selectable. Automatic rate of sample dispensing. Method storage – 10 built-in or infinite through system manager. Method entry – Manual or download from System Manager. Can auto – test instruments (self-diagnosis).

**Company should provide a trained and qualified person for functioning and maintenance of the instrument for the first one year from the date of installation.**

## TECHNICAL BID

## NAME OF WORK: Supply, Installation, Testing & Commissioning of HPTLC System at NIPGR Campus, New Delhi

## Tender No. 8/11/2018-19/NIPGR/S&P

| Sl. No. | Description | Qty Req. | Rate per Unit | Rate in INR, FOR Institute | Rate in Foreign currency, CIF / CIP New Delhi |
|---|---|---|---|---|---|
| 01 | Integrated High Performance Thin Layer Chromatography (HPTLC) system for quantification, identification, finger printing and micro-preparative separations of plant secondary metabolites with TLC-MS interface for direct mass analysis on TLC plate with following items: automated TLC applicator, Scanner, UV cabinet, photo-documentation, TLC plate heater, TLC chamber, software, computer system, printer, UPS, nitrogen cylinder with regulator<br><br>**1.AUTOMATIC TLC/HPTLC SAMPLER**<br>Fully automatic TLC sample application, 4th generation and stand alone or with system manager control. It should have 6 mode applicator for 1) Quantitative analysis 2) Micro-preparative chromatography (190mm band length & any vol. selectable) 3) Superimpose – internal standard or derivatization reagent in same method 4) in-situ clean-up (sample application at 110mm on y axis) 5) Rectangular application for fast application for aqueous samples 6) heated nozzle blowing hot nitrogen on samples for quick drying. Accepts sample syringes 10, 25 and 100µl with fixed or removable needles. Can be used as aid for mobile phase development. Min. application volume 10µl.<br><br>2.**GRADIENT AUTOMATIC MULTIPLE DEVELOPMENT CHAMBER**<br>PC controlled chromatogram developing chamber and its control module. Upto 25 times stepwise multiple gradient development in same direction must be possible. Use of upto 5 solvents to make gradient. Plate drying time must be 1 – 5 min. Gas phase equilibration after every step must be possible. Mobile phase front monitoring by CCD must be possible. Vacuum sensor must be built in. Gradient display on screen, validation software + self-diagnostics built-in. Vacuum connector, Optional link to system manager, Vacuum pump is required<br><br>**3.AUTOMATIC DEVELOPING CHAMBER WITH HUMIDITY CONTROL**<br>Automatic Developing Chamber for fully automatic development of TLC and HPTLC plates 20 x 20 cm, 20 x 10 cm and 10 x 10 cm (glass, plastic, aluminum). Development in 20 x 10 cm twin trough chamber must be possible. Solvent front detection by CCD must be possible. Activity and preconditioning of the layer, chamber saturation, developing distance and final drying | 01 | **Rates not to be quoted** | | |

can be pre-set and automatically controlled by the system. Sensor monitored humidity control must be present, which allows reproducible chromatography at defined activity of the layer.

**4.TLC / HPTLC SCANNER WITH DATA EVALUTION :**

System Manager controlled Scanner / Densitometer for automatic spectrum scanning for identity check as well as purity check; Automatic quantitative measurement by absorbance & fluorescence; All TLC / HPTLC plate sizes must be acceptable; Scan speed 100mm/sec @ 25µm resolution; Wavelength range 190-900 nm; Monochromator flushing by nitrogen; Data sampling rate – 4000 / sec; Special Macro optics for TLC & Micro optics for HPTLC. Spectrum scan speed 100 nm / sec; Max 999 spectra / plate; Visible pilot slit image / scan compartment illumination with UV to check sample alignment with scan beam; D2, Hg, W lamps must be built-in. Plate can be easily placed inside scanner
Data evaluation 32 bit software (latest version), Good S/N ratio. High reproducibility; Controlled by system Manager, automatic / manual data integration, Auto baseline correction. Spot check facility. 3D display with data storage and auto calculation of each peak at its λmax. Calibration - single level, multilevel, linear / non-linear. Statistics CV / CI. Reproducibility check facility. Auto calculation of data from wts and dil. factors must be present. Lamp use tracking. Service Dialog + Self Diagnostics + Tutorial all built – in. Meets GLP. Optional IQ-OQ and 21 CFR Rule 11 certification.

**5.ESSENTIAL SOFTWARE FOR SCANNER**

a. Spectrum Scanning option
b. Scanner Quantification
c. Multi Wavelength evaluation: Measures, stores and calculates automatically quantitative results from upto 30 wavelengths. Data stored & 3-D displayed in 3 ways. Colour plots of data. Automatic quantification with respect to λ max of separated fractions, in absorption & fluorescence mode.
d. Spectrum Library: Facility to create your own library. All files searched automatically for λ max as well as Rf.

**6.PROFESSIONAL TLC / HPTLC PHOTODOCUMENTATION SYSTEM under GLP :**

For fully automated image documentation at 254nm, 366 and visible light. Illumination Unit, Industrial Camera HPTLC specific software must be present.

a )**Illumination unit** – with 254 + 366 nm UV and Visible light (from above & below the plate). Uniform illumination. 60 KHz supply for instant, flickerless illumination. Easy access for changing tubes & filters and PCB. Auto switch off. Total darkness. Viewing window to observe plate in UV. Safety - UV switched off if door opened.

b)**Camera** 48 bit, high resolution industrial camera head (248 grey level resolution). Images of the highest quality. True colour capture. Very linear response. Individually calibrated. Camera head must be PC operated and does not have any controls. Image data and report through system manager software only, with ability to generate tamper proof data.

c) HPTLC Specific Software – Automatic image optimization, exposure time to suit brightest zone within dynamic range of CCD. Full function annotation. $R_f$ scale. Child image with or w/o ROI (Region of Interest) blow up. Auto image capture at 254nm and or 366nm and/or white light. Spot application tool to detect faintest fractions. High speed data transfer, control by system manager. Options to process the image. High Resolution Documentation software for IQ-OQ, performance check, clean plate correction,

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| | image averaging, image subtraction, white adjust and flat field corrections. Very useful to create the best possible image for evaluation.<br>d)Image comparison viewer software:- Allows comparison of different tracks from different plates under GLP. A must for accurate comparison. Extremely user friendly. Can create artificial plate with relevant data.<br><br>**7. HPTLC/TLC – MS Interface 2 :**<br><br>HPTLC interface for MS- rapid and contamination free elution of TLC/ HPTLC zones with online transfer to MS for guaranteed substance identification. Plug and play with most mass spectrometers. Elution into vials for further analysis e.g. NMR, IR and other MS techniques. Oval head for elution built-in. Circular head optional. Improved elution head and easily exchangeable filter before switch valve. Push button cleaning of elution path by compressed gas to prevent clogging. Laser for alignment of elution head and zone. Plate table with scale. Adjustable plate stopper. Suitable for glass and aluminum foil backed plates. 4 bar N2 required.<br>Pump for Elution solvent required (50-300 µl / flow min.<br><br>**8. TLC / HPTLC PLATE HEATER**<br><br>For in-situ derivatization and layer activation, stain resistant ceran glass top; temp range 25 to 200$^0$C. Uniform heating of plate. Digital display of set & actual temperature. Display remains on as long as plate is hot. Upto 20 x 20 cm size plates.<br><br>**9. CHROMATOGRAPHY VISUALISATION : UV CABINET**<br><br>Latest model of dual wavelength 254 nm + 366 nm with guaranteed minimum intensity, as follows : UV lamp at 17 cm distance. Short wave UV (254 nm) 1600, long wave (366 nm) 1000, Visible light (<400nm) 0.4. Full protection to viewer's eyes and skin from UV light for safety. High tech 50 kHz power supply for flickerless, instant illumination. Auto switch off after 10 min. Thermal sensor and tilt sensor built in for user safety<br><br>**10. DERIVATIZER**<br><br>Must have micro-droplet spraying technology for derivatization of TLC plates, highly homogeneous reagent distribution through optimized droplet size, recommended settings for the most common derivatization reagents, safe and environmentally friendly operation through closed system, intuitive handling and easy cleaning. Both 20x20cm & 20x10cm TLC/HPTLC plates compatible with 2ml derivitization reagent consumption for 20x10cm plates & 4ml for 20x20cm plates<br><br>11. **HPTLC SOFTWARE** –<br>The software must be new generation, single software to link, control, integrate, manage the instrument for application, development, scanning and image documentation. Guides the user through chromatography steps with sample oriented approach. Numerous method library available for internet download for lifetime. Client-server system for flexibility. The software must have powerful database tracks for individual samples and ensure data integrity. Several tools for System Suitability Test. Built-in automatic back-up and restore tool for data. Produces a comprehensive GLP compliant analysis report with instrument, analyst, date, time, place, method parameters etc. and complete details. It should communicate in both directions with instruments and stores infinite number of methods and downloads them | | |

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| | to instruments, when called for. It must be GLP compliant and 3rd generation<br><br>**12. <u>ACCESSORIES:</u>**<br><br>Workstation, Printer (Heavy duty, Color and Auto duplex) and UPS must be provided – (1 nos) The processing PC should have the following minimum configuration or better: Precision T7910 XL processor: E5-2667 v3 (8C HT, 20MB Cache, 3.2GHz Turbo); RAM: 32GB (4x8GB) 2133MHz DDR4 RDIMM ECC; 4x2TB SATA 7.2k RPM HDD; 512MB NVIDIA Quadro NVS 310 (2DP). Monitor: 27 inches; Microsoft Office: compatible version with the operating system.<br><br>5 KVa UPS or better with 1hr power backup for HPTLC.<br><br>2 nos of $N_2$ cylinder with double stage regulator<br><br><u>Chromatogram Development Chambers</u><br><br>a)All glass molded, one piece, bubble free chamber for TLC/ HPTLC. Bottom divided into two equal halves with a sloping divider. Chamber top and bottoms (both outside the chamber and inside the two troughs) should be perfectly parallel to each other. Chamber ground finish on top for good seal and at bottom for perfect level. Heavy chamber to minimise effects of vibration. One piece joint less moulded chambers prevent leakage and tough to handle while cleaning. Stainless steel, rust proof lid with overhang to completely seal the chamber.<br>b)20x20 cm, - 5 nos<br>c)20x10 cm – 5 nos<br>d)10x10 cm.- 10 nos<br>TLC precoated plates 20 X 20 cm silica gel F254 on Al foil – 5 Box<br>TLC Cutter 2 nos<br><br>**<u>General conditions: -</u>**<br>1.Demonstration of various specifications should be given by the successful bidder.<br>2.Analysis support: Since we deal with complex samples, support for analysis should be given by the vendor by sending their application specialist, free of costs during the warranty period<br>3.Equipment should be future proof and manufacturer is expected to offer upgrade whenever available rather than change models.<br><br>**Training**:<br>1.Complete systems should be installed and commissioned at NIPGR. After successful installation selected scientific/technical personnel from NIPGR should be provided with hands-on and in-depth training on the operation and maintenance of the system as well as specific application training by factory engineers and application specialists for not less than 30 days.<br>2.A live demo and analysis of our samples must be done by bidders at their cost.<br>3.Only Principal/Manufacturer should quote.<br>4.All specification must be supported by the official brochures from the company.<br>5.Only those bids/offers with the complete specifications mentioned above will be considered.<br>6.Since HPTLC are very sensitive equipment and requires regular servicing and support for smooth functioning of the facility, user's feedback as deemed by competent authority may be taken. Based on the user's feedback the competent authority reserves the right to reject the bid submitted.<br><br>**Warranty period:**<br>1.5 Year comprehensive warranty should be quoted for the whole instrument and parts. Comprehensive warranty should be provided by principal equipment manufacturer and for all other related accessories including but not limited to third party supplies.<br>2.Instruments must be attended within 48 hr in case of any breakd The uptime for the facility should be 95% per year or more. | | |

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| | 3.Two preventive maintenances for the complete platform shou performed every year during the warranty period.<br><br>**Optional:**<br><br>**1.SEMI AUTOMATIC SPOT / BAND APPLICATOR (OPTIONAL ITEM)**<br><br>Sprays sample to layer. Stand alone or System Manager Control. 4 mode applicator 1) Quantitative analysis 2) Micro-preparative chromatography (190mm band length & 500µl sample in one go) 3) Superimpose – int. std.or derivatization reagent in same method 4) in – situ clean-up (sample application at 110mm on y axis). Sample syringe – 100µl (for analytical work) 500µl (for micropreparative work). Sample position on X & Y axis freely selectable. Automatic rate of sample dispensing. Method storage – 10 built-in or infinite through system manager. Method entry – Manual or download from System Manager. Can auto – test instruments (self-diagnosis).<br><br>Company should provide a trained and qualified person for functioning and maintenance of the instrument for the first one year from the date of installation. | | |

**Name & Signature of Tenderers/**
**Company with Seal**

**National Institute of Plant Genome Research, New Delhi**

**PRICE BID**

**NAME OF WORK: Supply, Installation, Testing & Commissioning of HPTLC System at NIPGR Campus, New Delhi**

**Tender No. 8/11/2018-19/NIPGR/S&P**

| Sl. No. | Description | Qty Req. | Rate per Unit | Rate in INR, FOR Institute | Rate in Foreign currency, CIF / CIP New Delhi |
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| 01 | Integrated High Performance Thin Layer Chromatography (HPTLC) system for quantification, identification, finger printing and micro-preparative separations of plant secondary metabolites with TLC-MS interface for direct mass analysis on TLC plate with following items: automated TLC applicator, Scanner, UV cabinet, photo-documentation, TLC plate heater, TLC chamber, software, computer system, printer, UPS, nitrogen cylinder with regulator<br><br>**1.AUTOMATIC TLC/HPTLC SAMPLER**<br>Fully automatic TLC sample application, 4th generation and stand alone or with system manager control. It should have 6 mode applicator for 1) Quantitative analysis 2) Micro-preparative chromatography (190mm band length & any vol. selectable) 3) Superimpose – internal standard or derivatization reagent in same method 4) in-situ clean-up (sample application at 110mm on y axis) 5) Rectangular application for fast application for aqueous samples 6) heated nozzle blowing hot nitrogen on samples for quick drying. Accepts sample syringes 10, 25 and 100µl with fixed or removable needles. Can be used as aid for mobile phase development. Min. application volume 10µl.<br><br>2.**GRADIENT AUTOMATIC MULTIPLE DEVELOPMENT CHAMBER**<br>PC controlled chromatogram developing chamber and its control module. Upto 25 times stepwise multiple gradient development in same direction must be possible. Use of upto 5 solvents to make gradient. Plate drying time must be 1 – 5 min. Gas phase equilibration after every step must be possible. Mobile phase front monitoring by CCD must be possible. Vacuum sensor must be built in. Gradient display on screen, validation software + self-diagnostics built-in. Vacuum connector, Optional link to system manager, Vacuum pump is required<br><br>**3.AUTOMATIC DEVELOPING CHAMBER WITH HUMIDITY CONTROL** | 01 | | | |

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| | Automatic Developing Chamber for fully automatic development of TLC and HPTLC plates 20 x 20 cm, 20 x 10 cm and 10 x 10 cm (glass, plastic, aluminum). Development in 20 x 10 cm twin trough chamber must be possible. Solvent front detection by CCD must be possible. Activity and preconditioning of the layer, chamber saturation, developing distance and final drying can be pre-set and automatically controlled by the system. Sensor monitored humidity control must be present, which allows reproducible chromatography at defined activity of the layer.<br><br>**4.TLC / HPTLC SCANNER WITH DATA EVALUTION :**<br><br>System Manager controlled Scanner / Densitometer for automatic spectrum scanning for identity check as well as purity check; Automatic quantitative measurement by absorbance & fluorescence; All TLC / HPTLC plate sizes must be acceptable; Scan speed 100mm/sec @ 25µm resolution; Wavelength range 190-900 nm; Monochromator flushing by nitrogen; Data sampling rate – 4000 / sec; Special Macro optics for TLC & Micro optics for HPTLC. Spectrum scan speed 100 nm / sec; Max 999 spectra / plate; Visible pilot slit image / scan compartment illumination with UV to check sample alignment with scan beam; D2, Hg, W lamps must be built-in. Plate can be easily placed inside scanner<br>Data evaluation 32 bit software (latest version), Good S/N ratio. High reproducibility; Controlled by system Manager, automatic / manual data integration, Auto baseline correction. Spot check facility. 3D display with data storage and auto calculation of each peak at its λmax. Calibration - single level, multilevel, linear / non-linear. Statistics CV / CI. Reproducibility check facility. Auto calculation of data from wts and dil. factors must be present. Lamp use tracking. Service Dialog + Self Diagnostics + Tutorial all built – in. Meets GLP. Optional IQ-OQ and 21 CFR Rule 11 certification.<br><br>**5.ESSENTIAL SOFTWARE FOR SCANNER**<br>a. Spectrum Scanning option<br>b. Scanner Quantification<br>c. Multi Wavelength evaluation: Measures, stores and calculates automatically quantitative results from upto 30 wavelengths. Data stored & 3-D displayed in 3 ways. Colour plots of data. Automatic quantification with respect to λ max of separated fractions, in absorption & fluorescence mode.<br>d. Spectrum Library: Facility to create your own library. All files searched automatically for λ max as well as Rf.<br><br>**6.PROFESSIONAL TLC / HPTLC PHOTODOCUMENTATION SYSTEM under GLP :**<br><br>For fully automated image documentation at 254 366nm and visible light. Illumination Unit, Indus Camera and HPTLC specific software must be preser<br>a )**Illumination unit** – with 254 + 366 nm UV and Visible light (from above & below the plate). Uniform illumination. 60 KHz supply for instant, flickerless illumination. Easy access for changing tubes & filters and PCB. Auto switch off. Total darkness. Viewing window to observe plate in UV. Safety - UV switched off if door opened. | | | | |

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| | b)**Camera** 48 bit, high resolution industrial camera head (248 grey level resolution). Images of the highest quality. True colour capture. Very linear response. Individually calibrated. Camera head must be PC operated and does not have any controls. Image data and report through system manager software only, with ability to generate tamper proof data.<br>c) HPTLC Specific Software – Automatic image optimization, exposure time to suit brightest zone within dynamic range of CCD. Full function annotation. $R_f$ scale. Child image with or w/o ROI (Region of Interest) blow up. Auto image capture at 254nm and or 366nm and/or white light. Spot application tool to detect faintest fractions. High speed data transfer, control by system manager. Options to process the image. High Resolution Documentation software for IQ-OQ, performance check, clean plate correction, image averaging, image subtraction, white adjust and flat field corrections. Very useful to create the best possible image for evaluation**.**<br>d)Image comparison viewer software:- Allows comparison of different tracks from different plates under GLP. A must for accurate comparison. Extremely user friendly. Can create artificial plate with relevant data.<br><br>**7. HPTLC/TLC – MS Interface 2 :**<br><br>HPTLC interface for MS- rapid and contamination free elution of TLC/ HPTLC zones with online transfer to MS for guaranteed substance identification. Plug and play with most mass spectrometers. Elution into vials for further analysis e.g. NMR, IR and other MS techniques. Oval head for elution built-in. Circular head optional. Improved elution head and easily exchangeable filter before switch valve. Push button cleaning of elution path by compressed gas to prevent clogging. Laser for alignment of elution head and zone. Plate table with scale. Adjustable plate stopper. Suitable for glass and aluminum foil backed plates. 4 bar N2 required.<br>Pump for Elution solvent required (50-300 µl / flow r<br><br>**8. TLC / HPTLC PLATE HEATER**<br><br>For in-situ derivatization and layer activation, stain resistant ceran glass top; temp range 25 to 200$^0$C. Uniform heating of plate. Digital display of set & actual temperature. Display remains on as long as plate is hot. Upto 20 x 20 cm size plates.<br><br>**9. CHROMATOGRAPHY VISUALISATION : UV CABINET**<br><br>Latest model of dual wavelength 254 nm + 366 nm with guaranteed minimum intensity, as follows : UV lamp at 17 cm distance. Short wave UV (254 nm) 1600, long wave (366 nm) 1000, Visible light (<400nm) 0.4. Full protection to viewer's eyes and skin from UV light for safety. High tech 50 kHz power supply for flickerless, instant illumination. Auto switch off after 10 min. Thermal sensor and tilt sensor built in for user safety<br><br>**10. DERIVATIZER**<br><br>Must have micro-droplet spraying technology for derivatization of TLC plates, highly homogeneous reagent distribution through optimized droplet size, recommended settings for the most common derivatization reagents, safe and environmentally friendly operation through closed system, intuitive handling and easy cleaning. Both 20x20cm & 20x10cm TLC/HPTLC plates compatible with 2ml | | | | |

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| | derivitization reagent consumption for 20x10cm plates & 4ml for 20x20cm plates<br><br>11. **HPTLC SOFTWARE** –<br>The software must be new generation, single software to link, control, integrate, manage the instrument for application, development, scanning and image documentation. Guides the user through chromatography steps with sample oriented approach. Numerous method library available for internet download for lifetime. Client-server system for flexibility. The software must have powerful database tracks for individual samples and ensure data integrity. Several tools for System Suitability Test. Built-in automatic back-up and restore tool for data. Produces a comprehensive GLP compliant analysis report with instrument, analyst, date, time, place, method parameters etc. and complete details. It should communicate in both directions with instruments and stores infinite number of methods and downloads them to instruments, when called for. It must be GLP compliant and 3rd generation<br><br>**12. ACCESSORIES:**<br><br>Workstation, Printer (Heavy duty, Color and Auto duplex) and UPS must be provided – (1 nos) The processing PC should have the following minimum configuration or better: Precision T7910 XL processor: E5-2667 v3 (8C HT, 20MB Cache, 3.2GHz Turbo); RAM: 32GB (4x8GB) 2133MHz DDR4 RDIMM ECC; 4x2TB SATA 7.2k RPM HDD; 512MB NVIDIA Quadro NVS 310 (2DP). Monitor: 27 inches; Microsoft Office: compatible version with the operating system.<br><br>5 KVa UPS or better with 1hr power backup for HPTLC.<br><br>2 nos of $N_2$ cylinder with double stage regulator<br><br>Chromatogram Development Chambers<br><br>a)All glass molded, one piece, bubble free chamber for TLC/ HPTLC. Bottom divided into two equal halves with a sloping divider. Chamber top and bottoms (both outside the chamber and inside the two troughs) should be perfectly parallel to each other. Chamber ground finish on top for good seal and at bottom for perfect level. Heavy chamber to minimise effects of vibration. One piece joint less moulded chambers prevent leakage and tough to handle while cleaning. Stainless steel, rust proof lid with overhang to completely seal the chamber.<br>b)20x20 cm, - 5 nos<br>c)20x10 cm – 5 nos<br>d)10x10 cm.- 10 nos<br>TLC precoated plates 20 X 20 cm silica gel F254 on Al foil – 5 Box<br>TLC Cutter 2 nos<br><br>**General conditions: -**<br>1.Demonstration of various specifications should be given by the successful bidder.<br>2.Analysis support: Since we deal with complex samples, support for analysis should be given by the vendor by sending their application specialist, free of costs during the warranty period<br>3.Equipment should be future proof and manufacturer is expected to offer upgrade whenever available rather than change models. | | | | |

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