



## RETURN BIDS TO:

## RETOURNER LES SOUMISSIONS À:

Bid Receiving Public Works and Government  
Services Canada/Réception des soumissions  
Travaux publics et Services gouvernementaux  
Canada

Pacific Region/Région du Pacifique

## REQUEST FOR PROPOSAL DEMANDE DE PROPOSITION

### Proposal To: Public Works and Government Services Canada

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

### Proposition aux: Travaux Publics et Services Gouvernementaux Canada

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

### Comments - Commentaires

### Vendor/Firm Name and Address

Raison sociale et adresse du  
fournisseur/de l'entrepreneur

### Issuing Office - Bureau de distribution

Public Works and Government Services Canada - Pacific  
Region  
219 - 800 Burrard Street  
800, rue Burrard, pièce 219  
Vancouver, BC V6Z 0B9

<b>Title - Sujet</b> Liquid Chromatography Tandem QTFMSS	
<b>Solicitation No. - N° de l'invitation</b> K8F10-210132/A	<b>Date</b> 2020-10-09
<b>Client Reference No. - N° de référence du client</b> K8F10-210132	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$VAN-582-8845	
<b>File No. - N° de dossier</b> VAN-0-43122 (582)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2020-11-23</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Pacific Standard Time PST
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Lee, Hilda	<b>Buyer Id - Id de l'acheteur</b> van582
<b>Telephone No. - N° de téléphone</b> (604) 764-6053 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> Environment Canada PYLET 2645 DOLLARTON HWY N.VANCOUVER British Columbia V7H 1B1 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

<b>Delivery Required - Livraison exigée</b> See Herein	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

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## PART 1 - GENERAL INFORMATION

### 1.1 Security Requirement

There is no security requirement associated with this bid solicitation.

### 1.2 Requirement

The requirement is detailed under Article 6.2 of the resulting contract clauses.

### 1.3 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

### 1.4 epost Connect service

This bid solicitation allows bidders to use the epost Connect service provided by Canada Post Corporation to transmit their bid electronically. Bidders must refer to Part 2 entitled Bidder Instructions, and Part 3 entitled Bid Preparation Instructions, of the bid solicitation, for further information.

## PART 2 - BIDDER INSTRUCTIONS

### 2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The [2003](#) (2020-05-28) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of [2003](#), Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days

Insert: 180 days

### 2.2 Submission of Bids

Bids must be submitted only to the Public Works and Government Services Canada (PWGSC) Bid Receiving Unit specified below by the date and time indicated on page 1 of the bid solicitation:

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## **PWGSC Pacific Region Bid Receiving Unit**

Only bids submitted using epost Connect service will be accepted. The Bidder must send an email requesting to open an epost Connect conversation to the following address:

**TPSGC.RPReceptiondessoumissions-PRBidReceiving.PWGSC@tpsgc-pwgsc.gc.ca**

Note: Bids will not be accepted if emailed directly to this email address. This email address is to be used to open an epost Connect conversation, as detailed in Standard Instructions [2003](#), or to send bids through an epost Connect message if the bidder is using its own licensing agreement for epost Connect.

It is the Bidder's responsibility to ensure the request for opening an epost Connect conversation is sent to the email address above at least six days before the solicitation closing date.

**Bids transmitted by facsimile or hardcopy to PWGSC will not be accepted.**

### **2.3 Enquiries - Bid Solicitation**

All enquiries must be submitted in writing to the Contracting Authority no later than 10 calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

### **2.4 Applicable Laws**

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in British Columbia.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

### **2.5 Bid Challenge and Recourse Mechanisms**

- (a) Several mechanisms are available to potential suppliers to challenge aspects of the procurement process up to and including contract award.
- (b) Canada encourages suppliers to first bring their concerns to the attention of the Contracting Authority. Canada's [Buy and Sell](#) website, under the heading "[Bid Challenge and Recourse Mechanisms](#)" contains information on potential complaint bodies such as:
  - Office of the Procurement Ombudsman (OPO)
  - Canadian International Trade Tribunal (CITT)

- (c) Suppliers should note that there are **strict deadlines** for filing complaints, and the time periods vary depending on the complaint body in question. Suppliers should therefore act quickly when they want to challenge any aspect of the procurement process.

## PART 3 - BID PREPARATION INSTRUCTIONS

### 3.1 Bid Preparation Instructions

The Bidder must submit its bid electronically in accordance with section 08 of the 2003 standard instructions. The epost Connect system has a limit of 1GB per single message posted and a limit of 20GB per conversation.

The bid must be gathered per section and separated as follows:

Section I: Technical Bid  
Section II: Financial Bid  
Section III: Certifications

Bids transmitted by facsimile or hardcopy will not be accepted.

#### Section I: Technical Bid

In their technical bid, bidders should explain and demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability and describe their approach in a thorough, concise and clear manner for carrying out the work.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

**The mandatory criteria and detailed point rated requirements for this bid solicitation are laid out in Annex E, Evaluation Criteria and Basis of Selection and Form B.**

#### Section II: Financial Bid

- i. Bidders must submit their financial bid in accordance with the Basis of Payment in Annex "B". The total amount of Applicable Taxes must be shown separately, if applicable.
- ii. **Blank Prices:** Bidders are requested to insert "\$0.00" for any item for which it does not intend to charge or for items that are already included in other prices set out in the tables. If the Bidder leaves any price blank, Canada will treat the price as "\$0.00" for evaluation purposes and may request that the Bidder confirm that the price is, in fact, \$0.00. No bidder will be permitted to add or change a price as part of this confirmation. Any bidder who does not confirm that the price for a blank item is \$0.00 will be declared non-responsive.

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**Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.**

### **3.1.1 Electronic Payment of Invoices – Bid**

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex "C" Electronic Payment Instruments, to identify which ones are accepted.

If Annex "C" Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

### **3.1.2 Exchange Rate Fluctuation**

C3011T (2013-11-16), Exchange Rate Fluctuation

### **3.1.3 SACC Manual Clauses**

#### **Section III: Certifications**

Bidders must submit the certifications and additional information required under Part 5.

## **PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

### **4.1 Evaluation Procedures**

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

#### **4.1.1 Technical Evaluation**

##### **4.1.1.1 Mandatory Technical Criteria**

Each bid will be reviewed for compliance with the mandatory requirements of the bid solicitation. Any elements of the bid solicitation that are identified specifically with the words "must" or "mandatory" is a mandatory requirement. Bids that do not comply with each and every mandatory requirement will be declared non-responsive and be disqualified.

Claims in a bid that a future upgrade or release of any of product included in the bid will meet the mandatory requirements of the bid solicitation, where the upgrade or release is not available at bid closing, will not be considered.

The mandatory requirement are described in Annex A and Annex E.

##### **4.1.1.2 Point Rated Technical Criteria**

Each bid will be rated by assigning a score to the rated requirements, which are identified in the bid solicitation by the word "rated" or by reference to score. Bidders who fail to submit complete

bids with all the information requested by this solicitation will be rated accordingly. The rate requirements are described in Annex E.

The point rated technical evaluation is included in Annex A and Annex E.

#### 4.1.2 Financial Evaluation

SACC Manual Clause [A0220T](#) (2014-06-26), Evaluation of Price-Bid

#### 4.2 Basis of Selection

##### 4.2.1 Basis of Selection - Highest Combined Rating of Technical Merit and Price

###### 4.2.1.1 To be declared responsive, a bid must:

- (a) Comply with all the requirements of the id solicitation; and
- (b) Meet all mandatory criteria; and
- (c) Obtain the required minimum points specified for the technical evaluation

The rating is performed on a scale of 500 points. Minimum points of 350 (70%) of the total points must be achieved.

4.2.1.2 Bid not meeting (a) or (b) or (c) will be declared non-responsive.

4.2.1.3 The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 80% for the technical merit and 20% for the price.

4.2.1.4 To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained ÷ maximum number of points available multiplied by the ratio of 80%.

4.2.1.5 To establish the pricing score, each responsive bid will be prorated against the lowest evaluation price and the ratio of 20%.

4.2.1.6 For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.

4.2.1.7 Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract, provided that the total evaluated price (Initial Order) does not exceed the budget available for this requirement.

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 80/20 ratio of technical merit and price, respectively. The total available points equals 500 and the lowest evaluated price is \$45,000. The points will be rounded up the nearest two decimal places.

##### Basis of Selection – Highest Combined Rating Technical Merit (80%) and Price (20%)

	Bidder 1	Bidder 2	Bidder 3
Overall Technical Score	360/500	320/500	345/500
Bid Evaluated Price	55,000	50,000	45,000
Calculations	Technical Merit		
	360/500 x 80 =	320/500 x 80 =	345/500 x80 =



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	Score	57.60	51.20	55.20
	Pricing Score	45/55 x 20 = 16.36	45/50 x 20 = 18	45/45 x 20 = 20.00
Combined Rating		73.96	69.20	75.20
Overall Rating		2nd	3rd	1st

Therefore, the contract will be awarded to Bidder 3.

## PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

### 5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

#### 5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

### 5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

#### 5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real property agreement of the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

#### 5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the [Employment and Social](#)

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**Development Canada (ESDC) - Labour's** website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

### 5.2.3 Additional Certifications Precedent to Contract Award

#### 5.2.3.1 Original Equipment Manufacturer (OEM) Certification

As part of the evaluation, Canada requires OEM Certifications for the Liquid Chromatography Tandem Quadrupole Time of Flight Mass Spectrometer (LC/QToF) System being bid. If the Bidder is itself the OEM, it must provide the certification entitled "OEM Certification – Bidder is the OEM of Products Offered". If the Bidder is not the OEM, it must provide the certification entitled "OEM Certification – Bidder is not the OEM of Products Bid". If the Bidder is bidding products from multiple OEMs, a separate certification must be provided in respect of each OEM.

<b>OEM Certification – Bidder is the OEM of Products Bid</b>	
On behalf of the Bidder, I certify that the Bidder is itself the OEM of the products being offered in response to the Solicitation identified below.	
Solicitation Number	K8F10-210132/A
Name of Bidder	
Signature of Bidder's Authorized Representative	
Name of Bidder's Authorized Representative	
Date Signed	
If this Certification is limited to specific products or specific services, please provide details	

**Note for Joint Venture Bidder:** Where one of the members of the joint venture is the OEM, then this certification is required to be signed by that member of the joint venture.

<b>OEM Certification – Bidder is not the OEM of Products Bid</b>	
The OEM identified below authorizes the Bidder named below to provide its products and provide warranty service in relation to those products under the Contract issued as a result of the Solicitation identified below.	
Name of OEM	
Address of OEM	
Name of OEM's Authorized Representative	
Title of OEM's Authorized Representative	
Telephone Number of OEM's Authorized Representative	
Fax Number of OEM's Authorized Representative	
Signature of OEM's Authorized Representative	
Date Signed	
Solicitation Number	K8F10-210132/A
Name of Bidder	

If this Certification is limited to specific products or specific services, please provide details	
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**Note for Joint Venture Bidders:** Certifications made by the OEM must name (as the Bidder) ALL members of the joint venture Bidder that will be involved in delivering or servicing that OEM's equipment in the performance of the Work, or the joint venture itself must be named (if the joint venture has been given a name).

## PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

### 6.1 Security Requirements

6.1.1 There is no security requirement applicable to the Contract.

### 6.2 Statement of Work

The Contractor must provide the supply, delivery, installation and training of a Liquid Chromatography Tandem Quadrupole Time of Flight Mass Spectrometer (LC/QToF) System in accordance with the Requirement at Annex A and Annex B.

The system must be a new unit which must have full manufacturer's warranty. Demo or refurbished units will not be considered.

### 6.3 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

#### 6.3.1 General Conditions

[2010A](#) (2020-05-28), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

#### 6.3.2 Supplemental General Conditions

4001(2015-04-01), Supplemental General Conditions – Hardware Purchase, Lease and Maintenance  
4003 (2010-08-16), Supplemental General Conditions – Licensed Software, and  
4004 (2013-04-25), Supplemental General Conditions – Maintenance and Support Services for Licensed Software, apply to and form part of the Contract.

### 6.4 Term of Contract

#### 6.4.1 Period of the Contract

The period of the Contract is 4 years from Date of installation.

#### 6.4.2 Delivery Date

All the deliverables must be received on or before \_\_\_\_\_.

#### **6.4.3 Shipping Instructions - Delivery at Destination**

Goods must be consigned to the destination specified in the Contract and delivered:

Delivered Duty Paid (DDP) (Environment and Climate Change Canada, PYLET, 2645 Dollarton Hwy, North Vancouver, BC V7H 1B1), Incoterms 2000 for shipments from a commercial contractor.

#### **6.4.4 Optional Goods and/or Services (Remove if not applicable)**

The Contractor grants to Canada the irrevocable option to acquire the goods, services or both described at Annex B of the Contract under the same conditions and at the prices and/or rates stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

The Contracting Authority may exercise the option within \_\_\_\_ months after contract award by sending a written notice to the Contractor.

### **6.5 Authorities**

#### **6.5.1 Contracting Authority**

The Contracting Authority for the Contract is:

Hilda Lee  
Supply Specialist  
Public Works and Government Services Canada  
Acquisitions Branch, Pacific Region  
219 - 800 Burrard Street  
Vancouver, BC V6Z 0B9

Telephone: 604-764-6053  
E-mail address: [Hilda.Lee@pwgsc-tpsgc.gc.ca](mailto:Hilda.Lee@pwgsc-tpsgc.gc.ca)

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

#### **6.5.2 Project Authority (to be completed on award of contract)**

The Project Authority for the Contract is:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_

Telephone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority, however the Project Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

### 6.5.3 Contractor's Representative

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
  
Telephone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

## 6.6 Payment

### 6.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm lot price(s), as specified in Annex "B" for a cost of \$ \_\_\_\_\_ (to be filled on contract award). Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work

**Competitive Award:** The Contractor acknowledges that the Contract has been awarded as a result of a competitive process. No additional charges will be allowed to compensate for errors, oversights, misconceptions or underestimates made by the Contractor when bidding for the Contract.

### 6.6.2 Limitation of Price

*SACC Manual* clause C6000C (2017-08-17) Limitation of Price

### 6.6.3 Method of Payment

*SACC Manual* clause H1000C (2008-05-12) Single Payment

### 6.6.4 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- a. Visa Acquisition Card;
- b. MasterCard Acquisition Card;
- c. Direct Deposit (Domestic and International);
- d. Electronic Data Interchange (EDI);
- e. Wire Transfer (International Only);
- f. Large Value Transfer System (LVTS) (Over \$25M)

## 6.7 Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.
2. Invoices must be distributed as follows:
  - a. The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.
  - b. One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

## 6.8 Certifications and Additional Information

### 6.8.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

## 6.9 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in \_\_\_\_\_.

## 6.10 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the supplemental general conditions 4001 (2015-04-01) – Hardware Purchase;
- (c) the supplemental general conditions 4003 (2010-08-16) – Licensed Software;
- (d) the supplemental general conditions 4004 (2013-04-25) – Maintenance and Support Services for Licensed Software;
- (e) the general conditions 2010A (2020-05-28) – Goods (Medium Complexity);
- (f) Annex A, Statement of Work;
- (g) Annex B, Basis of Payment;
- (h) the Contractor's bid dated \_\_\_\_\_ (*insert date of bid*) (*If the bid was clarified or amended, insert at the time of contract award: “, as clarified on \_\_\_\_\_” or “, as amended on \_\_\_\_\_” and insert date(s) of clarification(s) or amendment(s)*)

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## **6.11 SACC Manual Clauses**

### **6.11.1 Electrical Equipment**

All electrical equipment supplied under the Contract must be certified or approved for use in accordance with the Canadian Electrical Code, Part 1, before delivery, by a certification organization accredited by the Standards Council of Canada.

### **6.12 Dispute Resolution**

- (a) The parties agree to maintain open and honest communication about the Work throughout and after the performance of the contract.
- (b) The parties agree to consult and co-operate with each other in the furtherance of the contract and promptly notify the other party or parties and attempt to resolve problems or differences that may arise.
- (c) If the parties cannot resolve a dispute through consultation and cooperation, the parties agree to consult a neutral third party offering alternative dispute resolution services to attempt to address the dispute.
- (d) Options of alternative dispute resolution services can be found on Canada's Buy and Sell website under the heading "[Dispute Resolution](#)".

### **6.13 Intellectual Property Infringement and Royalties**

- 1. The Contractor represents and warrants that, to the best of its knowledge, neither it nor Canada will infringe any third party's intellectual property rights in performing or using the Work, and that Canada will have no obligation to pay royalties of any kind to anyone in connection with the Work.
- 2. If anyone makes a claim against Canada or the Contractor concerning intellectual property infringement or royalties related to the Work, that Party agrees to notify the other Party in writing immediately. If anyone brings a claim against Canada, according to Department of Justice Act, R.S. 1985, c. J-2, the Attorney General of Canada must have the regulation and conduct of all litigation for or against Canada, but the Attorney General may request that the Contractor defend Canada against the claim. In either case, the Contractor agrees to participate fully in the defence and any settlement negotiations and to pay all costs, damages and legal costs incurred or payable as a result of the claim, including the amount of any settlement. Both Parties agree not to settle any claim unless the other Party first approves the settlement in writing.
- 3. The Contractor has no obligation regarding claims that were only made because:
  - a. Canada modified the Work or part of the Work without the Contractor's consent or used the Work or part of the Work without following a requirement of the Contract; or
  - b. Canada used the Work or part of the Work with a product that the Contractor did not supply under the Contract (unless that use is described in the Contract or the manufacturer's specifications); or
  - c. the Contractor used equipment, drawings, specifications or other information supplied to the Contractor by Canada (or by someone authorized by Canada); or

- d. the Contractor used a specific item of equipment or software that it obtained because of specific instructions from the Contracting Authority; however, this exception only applies if the Contractor has included the following language in its own contract with the supplier of that equipment or software: "[Supplier name] acknowledges that the purchased items will be used by the Government of Canada. If a third party claims that equipment or software supplied under this contract infringes any intellectual property right, [supplier name], if requested to do so by either [Contractor name] or Canada, will defend both [Contractor name] and Canada against that claim at its own expense and will pay all costs, damages and legal fees payable as a result of that infringement." Obtaining this protection from the supplier is the Contractor's responsibility and, if the Contractor does not do so, it will be responsible to Canada for the claim.
4. If anyone claims that, as a result of the Work, the Contractor or Canada is infringing its intellectual property rights, the Contractor must immediately do one of the following:
  - a. take whatever steps are necessary to allow Canada to continue to use the allegedly infringing part of the Work; or
  - b. modify or replace the Work to avoid intellectual property infringement, while ensuring that the Work continues to meet all the requirements of the Contract; or
  - c. take back the Work and refund any part of the Contract Price that Canada has already paid.

If the Contractor determines that none of these alternatives can reasonably be achieved, or if the Contractor fails to take any of these steps within a reasonable amount of time, Canada may choose either to require the Contractor to do (c), or to take whatever steps are necessary to acquire the rights to use the allegedly infringing part(s) of the Work itself, in which case the Contractor must reimburse Canada for all the costs it incurs to do so.

#### **6.14 Insurance**

SACC Manual clause G1005C (2016-01-28) Insurance – No Specific Requirement

#### **6.15 Warranty**

##### **6.15.1 Warranty – Modification – General Conditions 2010A**

Section 09 entitled Warranty of general conditions 2010A is amended by deleting subsection 2 in its entirety and replacing it with the following:

The Contractor must pay the transportation cost associated with returning the Work or any part of the Work to the Contractor's plant for replacement, repair or making good. The Contractor must also pay the transportation cost associated with forwarding the replacement or returning the Work or part of the Work when rectified to the delivery point specified in the Contract or to another locations as directed by Canada. If, in the opinion of Canada, it is not expedient to remove the Work from its location, the Contractor must carry out any necessary repair or making good of the Work at that location. In such cases, the Contractor will be responsible for all Costs (including travel and living expenses) incurred in so doing, Canada will not reimburse these costs.

All other provisions of the warranty section remain in effect.



Solicitation No. - N° de l'invitation  
K8F10-210132/A  
Client Ref. No. - N° de réf. du client  
K8F10-210132

Amd. No. - N° de la modif.  
File No. - N° du dossier  
VAN-0-43122

Buyer ID - Id de l'acheteur  
VAN582  
CCC No./N° CCC - FMS No./N° VME

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## **6.16 SACC Manual Clause**

SACC Manual Clause B7500C (2006-06-16) Excess Goods

## **ANNEX "A"**

### **STATEMENT OF WORK**

#### **Title**

The Purchase of a Liquid Chromatograph Tandem Time of Flight High Resolution Mass Spectrometer (LC/QToF) Systems for the Pacific & Yukon Laboratory for Environmental Testing (PYLET)

#### **Background**

The Chemistry Section of the Pacific and Yukon Laboratory for Environmental Testing (PYLET) located in North Vancouver, BC, requires the purchase of a Liquid Chromatography Tandem Time of Flight High Resolution Mass Spectrometer (LC/QToF) for the quantitative and qualitative analysis of a wide variety of trace level environmental organic compounds. Acquisition of this world class and state-of-the-art asset directly supports ECCC and GOC priority areas related to Oil Sands monitoring programs, Oceans Protections Plan, Disposal at Sea, Perfluoro-octane sulfonate (PFOS) regulations, emergency preparedness, and assessment of the impact of oil sands development on freshwater ecosystems within the area.

This instrument is required in order to maintain current up-to-date ability to fulfill PYLET's mandate with respect to water quality monitoring, emergency preparedness, and enforcement. Using LC/QToF, PYLET has developed a repertoire of specific methods related to Oilsands exploration, unknown chemical identification, fracking impact studies, oil dispersant monitoring, and OSPW source identification. As a Centre of Excellence lab for ECCC enforcement officers in unknown chemical identification, the LC/QToF has played a pivotal role in determining chemical compounds from samples received nationwide. Without this critical tool in dealing with the very challenging environmental samples, many of ECCC enforcement cases will very likely become weak due to lack of supporting high-resolution data, thus compromising the outcome of the legal cases. In summary, for PYLET the LC/QToF is an essential tool to support environmental enforcement officers with forensic analysis for prosecution of polluters and the protection of Canadian environment and Canadian's health.

An example is water quality testing for naphthenic acids from the Athabasca region. Currently, PYLET's naphthenic acids LC/QToF method has been recognized as the industry standard and is being used to monitor for potential seepage from the oil sand process impacted waters (OSPWs) of tailings ponds, and to support environmental toxicity testing of these compounds to various organisms. In many cases, LC/QToF is the main tool for chemical analysis following an emergency environmental spill, where the culprit of an animal kill is unknown, where a chemical spill requires legal evidence of identity, and where only high-resolution mass spectrometry data are accepted by court. Unique to PYLET, the current LC/QToF is capable of determining ultra-trace level of oil dispersant in the event of a large-scale oil spill following which oil dispersants are applied. Currently, no such above-mentioned capacities exist within WSTD enforcement and research support laboratories. The requested instrument will also deliver support needed for several other high priority projects, i.e., trace level analysis of pharmaceutical and personal care products (PPCP) for the Whales Initiative, identification of illegally logged wood species, fracking flow back liquid chemical identification, and determination of resin acids from pulp and paper mill effluent. Similarly, many of these analyses are not available with WSTD enforcement and research support laboratories.

PYLET conducts organic chemistry analyses for multiple clients, including the Federal, Provincial, and Municipal Governments and their various departments. PYLET needs an LC/QToF as a forensic

analysis tool to detect and quantify unknown chemical compounds in the surface waters for the enforcement of Canadian environmental regulations under the Canadian Environmental Protection Act (CEPA), Fisheries Act (FA) and other related acts/regulations. Data produced using this instrument can also be entered into a court of law for the purposes of prosecution. Currently, the existing 8-year-old LC/QToF is reaching the end of its lifetime and has become unreliable, suffering repeated down time and causing serious legal sample overdue. A new LC/QToF will allow PYLET chemists to continue to provide enforcement officers with much needed support in terms rapid turnaround time and unambiguous identification of unknown environmental pollutants.

### **Objective**

To obtain one LC/QToF Systems for the Pacific & Yukon Laboratory for Environmental Testing (PYLET). The new system should be installed on-site and the PYLET chemistry staff be trained on its usage. The new instrument must come equipped with the appropriate software for trace organic chemical analysis.

### **The Work**

One LC/QToF system will be purchased and installed in the Chemistry Section of PYLET. Chemistry staff will be trained on instrument use and maintenance. The instrument will come equipped with qualitative and quantitative analysis software that allows detection, interpretation, and determination of trace level organic chemicals in the environmental samples.

### **Deliverables**

The selection will be made based on the vendor meeting all mandatory specifications for the LC/QToF System, and scoring the highest number of technical points. Please see Specifications and Score Sheet for details.

### **Acceptance Criteria**

The LC/QToF instrument will be accepted once it is successfully installed, when all technical requirements are met, and after proper training has been provided. Please see Specifications and Score Sheet for details.

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## **Specifications for the Purchase of One Liquid Chromatography Tandem Quadrupole Time of Flight Mass Spectrometer (LC/QToF) System**

### **1. General**

Environment and Climate Change Canada (PYLET in North Vancouver, BC) requires applicable vendors to supply and install one Liquid Chromatography Tandem Quadrupole Time of Flight Mass Spectrometer System, hereafter LC/QToF, at 2645 Dollarton Highway, North Vancouver, British Columbia, for the quantitative and qualitative analysis of a wide variety of trace level environmental organic compounds.

This LC/QToF will be used as a forensic analysis tool for the enforcement of Canadian environmental regulations under the Canadian Environmental Protection Act (CEPA), Fisheries Act (FA), other related acts/regulations, as well as for new method development and environmental research projects. Data produced using the instrument may be entered into a court of law for the purposes of prosecution.

The instrument system must meet all applicable ISO, and CSA standards.

The supplied LC/QToF shall include all parts/equipment/software/data storage capacity necessary for analysis. It is incumbent upon the Vendor to recommend specific hardware configurations for COMPLETE SYSTEMS that are GUARANTEED suitable for the purposes specified. Vendors must submit documentation with their bidding package that CLEARLY AND PRECISELY DEMONSTRATE how their systems comply with the required specifications.

The Vendor MUST respond in detail to each item in the specifications below. Failure to do so, or failure to reply in sufficient detail, may severely impact on points allocated to the Vendor's system. The provision of company literature only is NOT ACCEPTABLE and may result in the Vendor being deemed non-responsive.

All prices must include DELIVERY to and system INSTALLATION at PYLET, Environment and Climate Change Canada, North Vancouver, BC. The cost(s) of any item(s) omitted from the quote(s) that are required to meet system installation, performance requirements and specifications as described herein, are to be the sole responsibility of the Vendor.

### **2. Liquid Chromatography Tandem Quadrupole Time of Flight Mass Spectrometer (LC/QToF)**

The Liquid Chromatography Tandem Quadrupole Time of Flight Mass Spectrometer (LC/QToF) System must consist of, but not be limited to, the following major components, complete with all software/hardware and interfacing necessary to make a fully integrated system:

- Two high performance liquid chromatography (LC) pumps
- One autodegasser

- One thermostated Autosampler
- One thermostated column compartment
- One high resolution and high mass accuracy quadrupole time of flight mass spectrometer
- Operating/Data System Software
- Operating/Data System Hardware
- System Implementation and Training
- Service & Support
- System Performance Specifications
- System Warranty

## 2.1 Liquid Chromatography (LC)

- 2.1.1 The LC Subsystem must be an integrated part of the total system and designated for unattended operation. It must be under complete control of the operating/data computer system. **MANDATORY**
- 2.1.2 The LC Subsystem should include two high performance LC pumps, with integrated autodegasser, one thermostated autosampler, and one thermostated column compartment. **MANDATORY**
- 2.1.3 All mobile phase back pressures, flow rates, leak detection and flows to inlets and detectors electronically controlled via the computer system. **MANDATORY**
- 2.1.4 All tubing, fitting, and regulators required for system installation must be included. **MANDATORY**
- 2.1.5 The LC method should be part of the full method along with Automatic Sampling parameters, Mass Spectrometer settings, Data Processing options and Reporting Options. **MANDATORY**
- 2.1.6 The LC system should be capable of performing as either a 'fast', 'ultra-performance' LC or as conventional LC. When used as an 'ultra-performance' LC system, it can provide analysis run times at least 75% shorter than conventional HPLC with no loss of resolution. This can be accomplished through a combination of higher operating pressures and flows, new column separation technologies, or by other means. **(Pt rated - 1.1)**
- 2.1.7 The LC system is able to run sub 2 µm particle size columns at a flow rate of up to 2.0 mL/min. **(Pt rated - 1.2)**
- 2.1.8 Flow rate range: 0.050 to 2 mL/min (**MANDATORY**) or higher (up to 5 mL/min). **(Pt rated - 1.3)**
- 2.1.9 Accommodate at least 2 solvents during a gradient run (**MANDATORY**), or more solvents and selectable from 4 different solvent reservoirs. **(Pt rated - 1.4)**
- 2.1.10 Maximum operating pressure: at least 600 bar for flow rate under 2 mL/min. **(Pt rated - 1.5)**
- 2.1.11 Minimum capacity: 48 vials or more up to 2 mL capacity each. **(Pt rated - 2.1)**
- 2.1.12 Degasser: automatic and continuous on-line vacuum degassing. **(Pt rated - 1.6)**
- 2.1.13 pH range: pH 2 to 12. **(Pt rated - 1.7)**

- 2.1.14 Column thermostat compartment: Maintain temperatures in range of 5 °C above ambient to 40 °C or higher in no more than 1 °C increments. **(Pt rated - 1.8)**
- 2.1.15 Injection volume: 0.1 to 100 uL or higher in 0.1 µL increments with no hardware changes. **(Pt rated – 2.2)**
- 2.1.16 Large Volume Injection: 10 to 2000 uL in 10 uL increments. **(Pt rated – 2.3)**
- 2.1.17 Integral heater and cooler for samples: programmable from 4-40 °C, in no more than 1°C increments. **(Pt rated – 2.4)**
- 2.1.18 Column switching valve included and under software control. **(Pt rated - 1.10)**
- 2.1.19 In-line degasser: integrated with pump with internal volume less than 2.0 mL per channel. **(Pt rated - 1.11)**
- 2.1.20 LC parts: any other items, including hardware and software not explicitly stated, required for the system to be qualified as per protocols stipulated by the vendor and accompanying documentation thereof. **(Pt rated - 1.12)**
- 2.1.21 LC pump maintenance torque wrench for in-house repair and services included. **(Pt rated - 1.13)**

## 2.2 Quadrupole Time of Flight Mass Spectrometer (QToF)

- 2.2.1 The QToF Subsystem must be an integrated part of the total system and designated for unattended operation and dedicated to perform LC/QToF. The QToF Subsystem must include a high resolution and high mass accuracy mass spectrometer, all relevant operating/Data System Software, operating/Data System Hardware, system implementation and training, service & support and system performance specifications. **MANDATORY**
- 2.2.2 The mass spectrometer must be of the high resolution and high accuracy type with resolution of at least 50,000.  
**Note:** vendor must provide clear definition and specific conditions of achieving the specified resolution. **MANDATORY**
- 2.2.3 Supplied with appropriate source for Electrospray (ESI). **MANDATORY**
- 2.2.4 Capable of MS sensitivity of detecting 1 pg of reserpine on column at 400:1 signal to noise (S/N).  
**Note:** vendor must provide definition and conditions of achieving the specified sensitivity. **MANDATORY**
- 2.2.5 Capable of MS/MS sensitivity of detecting 1 pg of reserpine on column at 1000:1 signal to noise (S/N).  
**Note:** vendor must provide definition and conditions of achieving the specified sensitivity. **MANDATORY**
- 2.2.6 Capable of mass accuracy (MS mode) of less than 1 ppm. **MANDATORY**  
**Note:** vendor must provide definition and conditions of achieving the required mass accuracy.
- 2.2.7 Mass stability: maintain <1 ppm mass accuracy variation when ambient temperature <3 °C from calibration temperature. **(Pt rated - 3.1)**
- 2.2.8 MS Range: at least m/z 50-8,000. **(Pt rated – 3.2)**
- 2.2.9 Linear dynamic range: up to 5 orders magnitude. **(Pt rated – 3.3)**

- Note:** vendor must provide definition and conditions of achieving the specified linear dynamic range.
- 2.2.10** MS Scan speed: at least 40 full scan spectra/second, MS/MS scan speed at least 20 spectra/second. **(Pt rated – 3.4)**  
**Note:** vendor must provide definition and conditions of achieving the specified scan speed.
- 2.2.11** Positive and negative mode polarities: capable of switching and stabilization between positive and negative mode rapidly. Ideally, the system should be able to perform positive-negative ionization mode switching during one data acquisition run, i.e. from one single injection of sample. Please comment in detail if this can occur only between scans. **(Pt rated – 3.5)**
- 2.2.12** Detector specification: Provide analog-to-digital conversion rate and data acquisition speed. Note: state and comment whether the detector preserves isotope ratio information (important for identification of unknown compounds). **(Pt rated – 3.6)**
- 2.2.13** Vacuum pumps: must provide all vacuum pumps required for instrument operation. **MANDATORY**
- 2.2.14** Reference and Calibrant infusion: capable of infusion of standards for automated optimization of ion optics and full MS mass axis calibration. Ideally, on-board pumped infusion system capable of delivering reference solutions from stored standards under computer control. The instrument software must be capable of using both internal standards and lock mass functions. **(Pt rated – 3.7)**
- 2.2.15** Unique features for naphthenic acids detection and quantitation and general unknown screening: vendor should provide detailed information about the unique features that could contribute the success in the proposed projects at PYLET. **(Pt rated – 3.8)**
- 2.2.16** Data acquisition: capable of generating empirical formula using MS data comprising (1) exact mass of parent, (2) exact mass spacing of all isotopes, and (3) intensities of isotopes. Capable of identifying peaks corresponding to a list of compounds with known formula and retention time (in an automated fashion). Possibility to generate, in an automated fashion, high resolution Extracted Ion Chromatograms within +/- 1.5 mDa error for screening of unknown compounds from complex matrices. **(Pt rated – 3.9)**
- 2.2.17** In-house libraries: capable of creating MS/MS libraries for identification/confirmation of compounds of interests with the ability to use a compound database library manager to create and edit entries. **(Pt rated - 4.1)**
- 2.2.18** Software tool for large molecular compounds: the software must provide the capabilities or tools to carry out automated molecular weight determination of proteins and peptides. Ideally this should include entropy algorithms and molecular features extractor. **(Pt rated - 4.2)**
- 2.2.19** MS software compatibility: The MS software must permit simple, direct data transfer to common programs such as Microsoft Word, Excel, Power Point, etc. and the capability to generate pdf format files, export images and text files, and save data in standard format(s) readable by other MS software packages etc. Please provide a detailed list of these features. **(Pt rated – 4.3)**



**2.2.20** System must have a fully automated tuning capabilities that can be easily performed by QTOF operator.

## **2.3 Operating/Data Computer System Software**

- 2.3.1** Operating system: The PC computer system's operating system should be Microsoft Windows 10 Pro or (the latest Microsoft operating system) and must conform to Environment and Climate Canada's network security requirements. **(Pt rated – 4.4)**
- 2.3.2** Network compatibility: The PC computer should provide built-in networking compatible with standard network protocols: TCP/IP, Novell, DecNet, etc. **(Pt rated – 4.5)**
- 2.3.3** Instrument control: full control of instrumentation operation including fully automated system start-up and shut down, initial instrument calibration, parameter optimization, routine operations, calibration, data processing, report generation, etc. **(Pt rated – 4.6)**
- 2.3.4** Multi-tasking capabilities: the PC should provide multi-tasking capabilities and be able to acquire and process data in real time. **(Pt rated – 4.7)**
- 2.3.5** Graphical display: full graphical instrument control window with the ability to display system parameters concurrently in real time. **(Pt rated – 4.8)**
- 2.3.6** Diagnostics tools: provide internal diagnostics including error checking, troubleshooting and a complete fault log. **(Pt rated – 4.9)**
- 2.3.7** Calibration tools: various calibration modes including external and internal calibration. Multilevel linear and multilevel non-linear calibration capacity. **(Pt rated – 4.10)**
- 2.3.8** Software Help: comprehensive context sensitive help including hypertext links and index. **(Pt rated – 4.11)**
- 2.3.9** Data processing: full data processing and reprocessing capabilities including control or editing of chromatogram integration, compound identification, calibration curves, quantitation and reporting parameters without the need to re-run samples. **(Pt rated – 4.12)**
- 2.3.10** Data analysis: The software should include comprehensive tools for statistical analysis, data mining, and visualization, such as Analysis of variance (ANOVA); Principal component analysis (PCA); t-tests; Volcano plots; Hierarchical trees (dendrograms); Self-organizing maps (SOMs); Quality threshold (QT) clustering; Support vector machines (SVMs). Ideally, the data results should be capable of searching the METLIN database, established by the Scripps Research Institute for metabolomic identifications. **(Pt rated – 4.15)**
- 2.3.11** Sample sequence control: ability to insert samples without stopping and restarting a previously started acquisition sequence. **(Pt rated – 4.13)**
- 2.3.12** Instrument Tuning: provide software based automatic tuning of HRMS instruments. **(Pt rated – 4.14)**

## **2.4 Operating/Data Computer System Hardware**

The computer system must include and meet or exceed the following minimum specifications:



- 2.4.1 A multi-core type processor operating at 3.0 GHz or higher. **(Pt rated – 4.16)**
- 2.4.2 The desktop should feature a dedicated graphics card with at least 2 GB RAM for fast chromatogram rendition. The dedicated graphic board must be able to support dual monitor configuration. **(Pt rated – 4.17)**
- 2.4.3 Minimum of 16 GB RAM. **(Pt rated – 4.18)**
- 2.4.4 1 Tb hard drive. **(Pt rated – 4.19)**
- 2.4.5 16x DVD-/±r RW drive. **(Pt rated – 4.20)**
- 2.4.6 An on-board or dedicated, 10/100/1000 Base-T LAN network interface card to access the laboratory's network. **(Pt rated – 4.21)**
- 2.4.7 Two 24" LCD colour monitors that feature a minimum resolution of 1280x1024. **(Pt rated – 4.22)**
- 2.4.8 A network capable color laser printer with printing speed of at least 10 pages per minute and with at least one high speed USB 3.0 port. **(Pt rated – 4.23)**

## 2.5 System Implementation and Training

- 2.5.1 The system must be CSA approved. **MANDATORY**
- 2.5.2 The system must include pre-installation site specifications to ensure site-readiness for installation. Specify SITE REQUIREMENTS including bench space, temperature and operating range, electrical connections (voltages and numbers), gases required, and any special requirements (venting, etc.). **MANDATORY**
- 2.5.3 Installation and system performance report documentation after the system installation is required before acceptance and payment. **MANDATORY**
- 2.5.4 A minimum of 4 days of on-site training or remote training on the LC/QToF operation, method development, and data processing for a minimum of 4 participants. **MANDATORY**.
- 2.5.5 Vendor should be able to provide additional in-depth training in troubleshooting and method development. **(Pt rated – 5.4)**
- 2.5.6 At PYLET's discretion, the training specified at 2.5.4 may be substituted with a minimum of 4 days of on-site training on advance software on statistical data processing for wood species chemotyping and geographical source pattern recognition for a minimum of 4 participants. **MANDATORY**
- 2.5.7 Provide training CD/DVD with instrument or on-line continuing training in both official languages (English & French). **(Pt rated – 5.3)**
- 2.5.8 The system must be supplied with at least 1 set of consumable parts and tool kit necessary for maintaining operation. **MANDATORY**

## 2.6 Warranty, Service & Support

- 2.6.1 Four years on-site parts and labour warranty/maintenance agreement must include one preventative maintenance visit per year on all components. Both on-site and telephone support must be included as standard. Pricing for additional warranty should be included as options. **(Pt rated – 5.1)**

- 
- The warranty will begin on the DATE OF ACCEPTANCE of the system by the scientific authority. The DATE OF ACCEPTANCE will be determined (after installation) by the bidder demonstrating that the SYSTEM meets all of the user's requirements, and the manufacturer's own performance specifications. **MANDATORY**
- 2.6.2** Service technicians must be available to be on-site within 2 business days of a service request. Bidders must provide in writing their policy of a service response. **MANDATORY**
- 2.6.3** Telephone support service calls must be responded to within one business day. Bidders must provide in writing their policy of service response. **MANDATORY**
- 2.6.4** Application chemists must be available for method development, customized on-site or on-line applications support. Bidders must provide in writing their policy of service response. **MANDATORY**
- 2.6.5** Entire analytical system consisting of liquid chromatography, quadrupole time of flight mass spectrometer, autosampler, and software are built, serviced and warranted by one bidder. **MANDATORY**
- 2.6.6** Long term technical support: provide instrument technical support for at least 8 years. **(Pt rated – 5.2)**

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## **ANNEX "B"**

### **BASIS OF PAYMENT**

#### **B.1 Financial Proposal Instructions**

##### **1. Pricing Requirements**

Environment and Climate Change Canada requires a fully installed and functional Liquid Chromatography Tandem Quadrupole Time of Flight Mass Spectrometer (LC/QToF) system. It is mandatory that the successful Contractor must supply, deliver and install all equipment, accessories and materials necessary for a fully functional system. Any materials and equipment necessary for the proper operation of the system not specified or described shall be deemed as part of the specification.

Any technological upgrades, such as new software versions, system ROM, firmware upgrades, etc, that are released after the system is ordered but before delivery and acceptance, shall be included at no charge. The cost(s) of any items(s) omitted from the quote that are required to meet system requirements and specifications as described herein, are to be the sole responsibility of the bidder.

##### **2. Firm Price**

All prices must include DELIVERY to and system INSTALLATION at PYLET Environment and Climate Change Canada at 2645 Dollarton Highway, North Vancouver, BC. The cost(s) of any item(s) omitted from the quote(s) that are required to meet system requirements and specifications as described herein, are to be the sole responsibility of the Bidder.

All prices must be in Canadian Funds, Delivered Duty Paid (DDP) ((Environment and Climate Change Canada, 2645 Dollarton Highway, North Vancouver, BC, V7H 1B1) Incoterms 2000, inclusive of all delivery costs, customs and duty charges, and applicable sales tax are extra.

Each bidder shall provide a separate firm price for the Base Bid for each item of equipment listed in this RFP. DDP Incoterms 2000, installed, include all delivery charges separately, to be valid for a period of up to 180 days from the date of the closing of the contract bid.

The unit price and the details of calculations leading up to the total bid price shall be clearly shown as a total dollar figure and shall include itemized: equipment; software with any license fees, installation, set-up, labour and any delivery charges. Pricing for the equipment should include five (5) parts:

2.1 The cost of the equipment;

2.2 The cost of training;

2.3 The cost of the installation and verification/commissioning charge – including any travel accommodations costs;

Or

2.4 Explanation of the four (4) years on-site parts and labour warranty/maintenance policies for the system, and detailing the labour and equipment coverage and any limitations;

2.5 The cost of additional warranty as an option;

2.6 The cost of additional value added items.

3. The terms and conditions in B.2 and the proposed price will be included as Annex B – Basis of Payment in the resulting contract.

**B.2 Resulting Annex B – Basis of Payment for the Contract**

All technological upgrades, such as new software versions, system ROM upgrades, etc, that are released after the system is ordered but before delivery and acceptance must be included at no additional charge. The cost of any item that is omitted but are required to meet the system requirements and specifications are the sole responsibility of the Contract.

All prices must be in Canadian Funds, Delivered Duty Paid (DDP) ((Environment and Climate Change Canada, 2645 Dollarton Highway, North Vancouver, BC, V7H 1B1) Incoterms 2000, inclusive of all delivery costs, customs and duty charges, and applicable sales tax are extra.

Sample Pricing Table:

**Note that this is only an example and your price proposal should be in a similar format.**

**Initial Order:**

Item #	Part No.	Description	U of I	Qty	Unit Cost	Extended Cost
1	xxxx		ea			
1a	xxxa		ea			
1b	xxxb		ea			
1c	xxxc		ea			
1d	xxxd		ea			
1e			ea			
1f	zzzzz		ea			
1g			ea			
2			ea			
2a	1.112		ea			
2b	1.113		ea			
2c	aaaa		ea			
2d	zzzzzx	etc	ea			
3	aaa	Installation	Lot	1		
4	bbb	On-site training	Lot	1		
5	ccc	Initial Warranty/Maintenance and support	Yr	1		
		<b>Subtotal 1</b>				

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#### Optional Services

6	dddd	Year 5 – warranty / maintenance and support extension	Lot	1		
6	eeee	Year 6 – warranty / maintenance and support extension	Lot	1		
7	ffff	Year 7 – warranty / maintenance and support extension	Lot	1		

**TOTAL PRICE (Subtotal 1 & 2):** \$\_\_\_\_\_

#### **B.3 Optional Goods – Value Added items** (This will not be part of the financial evaluation)

**Note:** Vendor may list optional items, and relevant information and specifications that deem suitable and beneficial to Environment and Climate Change Canada PYLET to fulfill its mandate as stated in Annex A and thus to become part of this tender, such as:

- LC capillary columns, especially PAH speciality columns
- Additional in-depth training courses
- Large data display monitor of 32 inches
- A network capable laser colour printer with at least one high speed USB 3.0 port and Wi-Fi capable.
- Any other accessories or components that will enhance the performance of capacities of the proposed system.

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## **ANNEX “C” to PART 3 OF THE BID SOLICITATION**

### **ELECTRONIC PAYMENT INSTRUMENTS**

The Bidder accepts any of the following Electronic Payment Instrument(s):

- ☐ VISA Acquisition Card;
- ☐ MasterCard Acquisition Card;
- ☐ Direct Deposit (Domestic and International);
- ☐ Electronic Data Interchange (EDI);
- ☐ Wire Transfer (International Only);
- ☐ Large Value Transfer System (LVTS) (Over \$25M)

## ANNEX "D" to PART 5 OF THE BID SOLICITATION

### FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - CERTIFICATION

I, the Bidder, by submitting the present information to the Contracting Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare a bid non-responsive, or will declare a contractor in default, if a certification is found to be untrue, whether during the bid evaluation period or during the contract period. Canada will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply with any request or requirement imposed by Canada may render the bid non-responsive or constitute a default under the Contract.

For further information on the Federal Contractors Program for Employment Equity visit [Employment and Social Development Canada \(ESDC\)-Labour's](#) website.

Date: \_\_\_\_\_ (YYYY/MM/DD) (If left blank, the date will be deemed to be the bid solicitation closing date.)

Complete both A and B.

A. Check only one of the following:

- ☐ A1. The Bidder certifies having no work force in Canada.
- ☐ A2. The Bidder certifies being a public sector employer.
- ☐ A3. The Bidder certifies being a [federally regulated employer](#) being subject to the [Employment Equity Act](#).
- ☐ A4. The Bidder certifies having a combined work force in Canada of less than 100 permanent full-time and/or permanent part-time employees.

A5. The Bidder has a combined workforce in Canada of 100 or more employees; and

- ☐ A5.1. The Bidder certifies already having a valid and current [Agreement to Implement Employment Equity](#) (AIEE) in place with ESDC-Labour.

**OR**

- ☐ A5.2. The Bidder certifies having submitted the [Agreement to Implement Employment Equity](#) (LAB1168) to ESDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to ESDC-Labour.

B. Check only one of the following:

- ☐ B1. The Bidder is not a Joint Venture.

**OR**

- ☐ B2. The Bidder is a Joint Venture and each member of the Joint Venture must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions)

## ANNEX E

### EVALUATION CRITERIA AND BASIS OF SELECTION

#### **PART 1 - TECHNICAL EVALUATION**

Technical bids will be evaluated as follows:

##### **E1.0 Mandatory Requirements**

Failure to meet the mandatory requirements will render the bid as non-responsive and no further evaluation will be carried out.

##### **E2.0 Technical Requirements – Mandatory and Point Rated Criteria**

- (a) Bids meeting the mandatory requirements will be evaluated in accordance with the point rated criteria. As indicated under Part 3, Section 3.1 of the RFP, the technical bid should address clearly and in sufficient depth, the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient.
- (b) Using the provided forms or using a reasonable copy of the provided forms on a separate page or pages, provide a response to each of the following mandatory and point rated criteria.
- (c) The information provided by the Bidder may be verified by Canada. Failure by the Bidder to provide the required information or in the event that the information cannot be verified shall result in the Bidder being disqualified and no further consideration will be given to the Bidder.
- (e) Canada reserves the right to verify information for completeness and accuracy and to confirm reference satisfaction with services provided. In the event the information cannot be verified or the service is found to be unsatisfactory shall result in the bid being considered non-responsive and no further consideration will be given to the Bidder.



### **E3.0 Mandatory Criteria**

#### **In Annex A, 2.1 Liquid Chromatography (LC)**

2.1.1	The LC Subsystem must be an integrated part of the total system and designated for unattended operation. It must be under complete control of the operating/data computer system.	Pass/Fail_____
2.1.2	The LC Subsystem should include two high performance LC pumps, with integrated autodegasser, one thermostated autosampler, and one thermostated column compartment.	Pass/Fail_____
2.1.3	All mobile phase back pressures, flow rates, leak detection and flows to inlets and detectors electronically controlled via the computer system.	Pass/Fail_____
2.1.4	All tubing, fitting, and regulators required for system installation must be included.	Pass/Fail_____
2.1.5	The LC method should be part of the full method along with Automatic Sampling parameters, Mass Spectrometer settings, Data Processing options and Reporting Options.	Pass/Fail_____
2.1.8	Flow rate range: 0.050 to 2 mL/min	Pass/Fail_____
2.1.9	Accommodate at least 2 solvents during a gradient run	Pass/Fail_____

#### **In Annex A, 2.2 Quadrupole Time of Flight Mass Spectrometer (QToF)**

2.2.1	The QToF Subsystem must be an integrated part of the total system and designated for unattended operation and dedicated to perform LC/QToF. The QToF Subsystem must include a high resolution and high mass accuracy mass spectrometer, all relevant operating/Data System Software, operating/Data System Hardware, system implementation and training, service & support and system performance specifications.	Pass/Fail_____
2.2.2	The mass spectrometer must be of the high resolution and high accuracy type with resolution of at least 50,000. <b>Note:</b> vendor must provide clear definition and specific conditions of achieving the specified resolution.	Pass/Fail_____
2.2.3	Supplied with appropriate source for Electrospray (ESI).	Pass/Fail_____
2.2.4	Capable of MS sensitivity of detecting 1 pg of reserpine on column at 400:1 signal to noise (S/N). <b>Note:</b> vendor must provide definition and conditions of achieving the specified sensitivity.	Pass/Fail_____

2.2.5	Capable of MS/MS sensitivity of detecting 1 pg of reserpine on column at 1000:1 signal to noise (S/N). <b>Note:</b> vendor must provide definition and conditions of achieving the specified sensitivity.	Pass/Fail _____
2.2.6	Capable of mass accuracy (MS mode) of less than 1 ppm. <b>Note:</b> vendor must provide definition and conditions of achieving the required mass accuracy.	Pass/Fail _____
2.2.13	Vacuum pumps: must provide all vacuum pumps required for instrument operation.	Pass/Fail _____

#### In Annex A, 2.5 System Implementation and Training

2.5.1	The system must be CSA approved.	Pass/Fail _____
2.5.2	The system must include pre-installation site specifications to ensure site-readiness for installation. Specify SITE REQUIREMENTS including bench space, temperature and operating range, electrical connections (voltages and numbers), gases required, and any special requirements (venting, etc.).	Pass/Fail _____
2.5.3	Installation and system performance report documentation after the system installation is required before acceptance and payment.	Pass/Fail _____
2.5.4	A minimum of 4 days of on-site training on the LC/QToF operation, method development, and data processing for a minimum of 4 participants.	Pass/Fail _____
2.5.6	At PYLET's discretion, the training specified at 2.5.4 may be substituted with a minimum of 4 days of on-site training on advance software on statistical data processing for wood species chemotyping and geographical source pattern recognition for a minimum of 4 participants.	Pass/Fail _____
2.5.8	The system must be supplied with at least 1 set of consumable parts and tool kit necessary for maintaining operation.	Pass/Fail _____

**In Annex A, 2.6 Warranty, Service & Support**

2.6.1	The warranty will begin on the DATE OF ACCEPTANCE of the system by the scientific authority. The DATE OF ACCEPTANCE will be determined (after installation) by the bidder demonstrating that the SYSTEM meets all of the user's requirements, and the manufacturer's own performance specifications.	Pass/Fail _____
2.6.2	Service technicians must be available to be on-site within 2 business days of a service request. Bidders must provide in writing their policy of a service response.	Pass/Fail _____
2.6.3	Telephone support service calls must be responded to within one business day. Bidders must provide in writing their policy of service response.	Pass/Fail _____
2.6.4	Application chemists must be available for method development, customized on-site or on-line applications support. Bidders must provide in writing their policy of service response.	Pass/Fail _____
2.6.5	Entire analytical system consisting of liquid chromatography, quadrupole time of flight mass spectrometer, autosampler, and software are built, serviced and warranted by one bidder.	Pass/Fail _____

**E3.1 Point rated Criteria (ToTAL points – 500 points, Pass mark – 350 points)**

( ) refers to Annex "A"		No. of Points Assigned	Note: Vendor should provide justification for meeting the specifications
1	<b>Liquid Chromatography (LC) Total Points</b>	<b>_____ / 70</b>	
1.1 (2.1.6)	The LC system should be capable of performing as either a 'fast', 'ultra-performance' LC or as conventional LC. When used as an 'ultra-performance' LC system, it can provide analysis run times at least 75% shorter than conventional HPLC with no loss of resolution. This can be accomplished through a combination of higher operating pressures and flows, new column separation technologies, or by other means.	_____ / 15	
1.2 (2.1.7)	The LC system is able to run sub 2 µm particle size columns at a flow rate of up to 2.0 mL/min.	_____ / 5	
1.3 (2.1.8)	Flow rate range: 0.050 to 2 mL/min or higher (up to 5 mL/min).	_____ / 5	
1.4 (2.1.9)	Accommodate at least 2 solvents during a gradient run, or	_____ / 5	

	more solvents and selectable from 4 different solvent reservoirs.		
1.5 (2.1.10)	Maximum operating pressure: at least 600 bar for flow rate under 2 ml/min.	_____ / 5	
1.6 (2.1.12)	Degasser: automatic and continuous on-line vacuum degassing.	_____ / 5	
1.7 (2.1.13)	pH range: pH 2 to 12.	_____ / 5	
1.8 (2.1.14)	Column thermostat compartment: Maintain temperatures in range of 5 °C above ambient to 40 °C or higher in no more than 1 °C increments.	_____ / 5	
1.10 (2.1.18)	Column switching valve included and under software control.	_____ / 5	
1.11 (2.1.19)	In-line degasser: integrated with pump with internal volume less than 2.0 mL per channel.	_____ / 5	
1.12 (2.1.20)	LC parts: any other items, including hardware and software not explicitly stated, required for the system to be qualified as per protocols stipulated by the vendor and accompanying documentation thereof.	_____ / 5	
1.13 (2.1.21)	LC pump maintenance torque wrench for in-house repair and services included.	_____ / 5	
<b>2</b>	<b>LC Autosampler (AS)</b>		
	<b>Total Points</b>	_____ / 30	
2.1 (2.1.11)	Minimum capacity: 48 vials or more up to 2 mL capacity each.	_____ / 5	
2.2 (2.1.15)	Injection volume: 0.1 to 100 uL or higher in 0.1 µL increments with no hardware changes.	_____ / 5	
2.3 (2.1.16)	Large Volume Injection: 10 to 2000 uL in 10 uL increments.	_____ / 10	
2.4 (2.1.17)	Integral heater and cooler for samples: programmable from 4-40 °C, in no more than 1 °C increments.	_____ / 10	
<b>3</b>	<b>Mass Spectrometer (MS)</b>		
	<b>Total Points</b>	_____ / 100	
3.1 (2.2.7)	Mass stability: maintain <1 ppm mass accuracy variation when	_____ / 10	

	ambient temperature <3 °C from calibration temperature.		
3.2 (2.2.8)	MS Range: at least m/z 50-8,000.	____ / 10	
3.3 (2.2.9)	Linear dynamic range: up to 5 orders magnitude. <b>Note:</b> vendor must provide definition and conditions of achieving the specified linear dynamic range.	____ / 20	
3.4 (2.2.10)	MS Scan speed: at least 40 full scan spectra/second, MS/MS scan speed at least 20 spectra/second. <b>Note:</b> vendor must provide definition and conditions of achieving the specified scan speed.	____ / 10	
3.5 (2.2.11)	Positive and negative mode polarities: capable of switching and stabilization between positive and negative mode rapidly. Ideally, the system should be able to perform positive-negative ionization mode switching during one data acquisition run, i.e. from one single injection of sample. Please comment in detail if this can occur only between scans.	____ / 10	
3.6 (2.2.12)	Detector specification: Provide analog-to-digital conversion rate and data acquisition speed. Note: state and comment whether the detector preserves isotope ratio information (important for identification of unknown compounds).	____ / 10	
3.7 (2.2.14)	Reference and Calibrant infusion: capable of infusion of standards for automated optimization of ion optics and full MS mass axis calibration. Ideally, on-board pumped infusion system capable of delivering reference solutions from stored standards under computer control. The instrument software must be capable of using both internal standards and lock mass functions.	____ / 10	
3.8 (2.2.15)	Unique features for naphthenic acids detection and quantitation and general unknown screening: vendor should provide detailed information about the unique features that could contribute the success in the proposed projects at PYLET.	____ / 10	
3.9 (2.2.16)	Data acquisition: capable of generating empirical formula using MS data comprising (1) exact mass of parent, (2) exact mass spacing of all isotopes, and (3) intensities of isotopes.	____ / 10	

	Capable of identifying peaks corresponding to a list of compounds with known formula and retention time (in an automated fashion). Possibility to generate, in an automated fashion, high resolution Extracted Ion Chromatograms within +/- 1.5 mDa error for screening of unknown compounds from complex matrices.		
<b>4</b>	<b>Operating/Data Computer System Software Total Points</b>	<b>_____ / 150</b>	
4.1 (2.2.17)	In-house libraries: capable of creating MS/MS libraries for identification/confirmation of compounds of interests with the ability to use a compound database library manager to create and edit entries.	_____ / 10	
4.2 (2.2.18)	Software tool for large molecular compounds: the software must provide the capabilities or tools to carry out automated molecular weight determination of proteins and peptides. Ideally this should include entropy algorithms and molecular features extractor.	_____ / 10	
4.3 (2.2.19)	MS software compatibility: The MS software must permit simple, direct data transfer to common programs such as Microsoft Word, Excel, Power Point, etc. and the capability to generate pdf format files, export images and text files, and save data in standard format(s) readable by other MS software packages etc. Please provide a detailed list of these features.	_____ / 5	
4.4 (2.3.1)	Operating system: The PC computer system's operating system should be Microsoft Windows 10 Pro or (the latest Microsoft operating system) and must conform to Environment and Climate Canada's network security requirements.	_____ / 10	
4.5 (2.3.2)	Network compatibility: The PC computer should provide built-in networking compatible with standard network protocols: TCP/IP, Novell, DecNet, etc.	_____ / 5	
4.6 (2.3.3)	Instrument control: full control of instrumentation operation including fully automated system start-up and shut down, initial instrument calibration, parameter optimization, routine	_____ / 5	

	operations, calibration, data processing, report generation, etc.		
4.7 (2.3.4)	Multi-tasking capabilities: the PC should provide multi-tasking capabilities and be able to acquire and process data in real time.	____ / 5	
4.8 (2.3.5)	Graphical display: full graphical instrument control window with the ability to display system parameters concurrently in real time.	____ / 5	
4.9 (2.3.6)	Diagnostics tools: provide internal diagnostics including error checking, troubleshooting and a complete fault log.	____ / 10	
4.10 (2.3.7)	Calibration tools: various calibration modes including external and internal calibration. Multilevel linear and multilevel non-linear calibration capacity.	____ / 5	
4.11 (2.3.8)	Software Help: comprehensive context sensitive help including hypertext links and index.	____ / 5	
4.12 (2.3.9)	Data processing: full data processing and reprocessing capabilities including control or editing of chromatogram integration, compound identification, calibration curves, quantitation and reporting parameters without the need to re-run samples.	____ / 5	
4.13 (2.3.11)	Sample sequence control: ability to insert samples without stopping and restarting a previously started acquisition sequence.	____ / 5	
4.14 (2.3.12)	Instrument Tuning: provide software based automatic tuning of HRMS instruments.	____ / 5	
4.15 (2.3.10)	Data analysis: The software should include comprehensive tools for statistical analysis, data mining, and visualization, such as Analysis of variance (ANOVA); Principal component analysis (PCA); t-tests; Volcano plots; Hierarchical trees (dendrograms); Self-organizing maps (SOMs); Quality threshold (QT) clustering; Support vector machines (SVMs). Ideally, the data results should be capable of searching the METLIN database, established by the Scripps Research Institute for metabolomic identifications.	____ / 15	



4.16 (2.4.1)	A multi-core type processor operating at 3.0 GHz or higher.	____ / 5	
4.17 (2.4.2)	The desktop should feature a dedicated graphics card with at least 2 GB RAM for fast chromatogram rendition. The dedicated graphic board must be able to support dual monitor configuration.	____ / 5	
4.18 (2.4.3)	Minimum of 16 GB RAM.	____ / 5	
4.19 (2.4.4)	1 Tb hard drive	____ / 5	
4.20 (2.4.5)	16x DVD-/±r RW drive	____ / 5	
4.21 (2.4.6)	An on-board or dedicated, 10/100/1000 Base-T LAN network interface card to access the laboratory's network.	____ / 5	
4.22 (2.4.7)	Two 24" LCD colour monitors that feature a minimum resolution of 1280x1024.	____ / 5	
4.23 (2.4.8)	A network capable color laser printer with printing speed of at least 10 pages per minute and with at least one high speed USB 3.0 port.	____ / 5	
<b>5</b>	<b>System Warranty, Implementation and Training Total Points</b>	____ / 100	
5.1 (2.6.1)	Four years on-site parts and labour warranty/maintenance agreement must include one preventative maintenance visit per year on all components. Both on-site and telephone support must be included as standard (Mandatory). Pricing for additional warranty should be included as options.	____ / 60	
5.2 (2.6.6)	Long term technical support: provide instrument technical support for at least 8 years.	____ / 5	
5.3 (2.5.7)	Provide training CD/DVD with instrument or on-line continuing training.	____ / 5	
5.4 (2.5.5)	Vendor should be able to provide additional in-depth training in troubleshooting and method development.	____ / 30	
<b>6</b>	<b>Total Instrument Package Suitability Total Points</b>	____ / 50	
6.1	State the suitability of the proposed system to meet the	____ / 50	



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	challenges of naphthenic acids, general unknown screening, genomics research, and other projects specified at Statement of Work and Deliverables.		
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**FORM A – Bid Submission Form**

BID SUBMISSION FORM		
Bidder's full legal name		
Authorized Representative of Bidder for evaluation purposes (e.g., clarifications)	Name	
	Title	
	Address	
	Telephone #	
	Fax #	
	Email	
Bidder's Procurement Business Number (PBN) [see the Standard Instructions 2003]		
Jurisdiction of Contract: Province or Territory in Canada the bidder wishes to be the legal jurisdiction applicable to any resulting contract (if other than as specified in solicitation)		
Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently <b>directors of the Bidder</b> . Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s). Bidders bidding as societies, firms, or partnerships do not need to provide lists of names.		
<p>On behalf of the Bidder, by signing below, I confirm that I have read the entire bid solicitation including the documents incorporated by reference into the bid solicitation and I certify that:</p> <ol style="list-style-type: none"><li>1. The Bidder considers itself and its products able to meet all the mandatory requirements described in the bid solicitation;</li><li>2. This bid is valid for the period requested in the bid solicitation;</li><li>3. All the information provided in the bid is complete, true and accurate; and</li><li>4. If the Bidder is awarded a contract, it will accept all the terms and conditions set out in the resulting contract clauses included in the bid solicitation.</li></ol>		
Signature of Authorized Representative of Bidder		Date

**FORM B: Substantiation of Technical Compliance Form**

**GENERAL INSTRUCTION**

1.
  - a) Bidders are requested to complete FORM B
  - b) provide the proposed make and model of the items
  - c) Under **MANDATORY CRITERIA**, “**Comply Yes/No**”, indicate whether or not the proposed system being offered meets or does not meet the requirements;
  - d) Under **MANDATORY CRITERIA & POINT-RATED CRITERIA, Reference**, provide the reference page number(s) in the provided Technical literature and in the Technical literature, highlight the technical information that supports your compliance with the mandatory criteria and point-rated criteria.

It will be to your advantage to furnish as much detail as possible to support the specifications your comments or claims of compliance for each specification.

2. Canada is under NO obligation to seek clarification of the bid(s) or the supporting technical documentation provided. Bidders should note that failure to demonstrate any capability to which they claim compliance will result in their proposal may being considered non-responsive. Any deviation is to be clearly identified and supported with full details.

**FORM B - SUBSTANTIATION OF TECHNICAL COMPLIANCE FORM – Mandatory CRITERIA**

**PART 1: Proposed Make and Model of Equipment:**

Bidders are to complete the following:

1	Proposed Liquid Chromatography Tandem Quadrupole Mass Spectrometer (LC/QToF) System to meet specifications in Annex A – Statement of Work.	Make: _____ Model: _____
---	--	-----------------------------

**PART 2: CERTIFICATION OF COMPLIANCE WITH ALL THE MANDATORY REQUIREMENT LISTED IN PART 3 OF FORM B**

Bidders certifies that their bid complies with all the mandatory specifications and requirements listed in PART 3 of FORM B.  
COMPLY YES \_\_\_ NO \_\_\_

**PART 3: SUBSTANTIATION OF TECHNICAL COMPLIANCE**

**B1. Mandatory Criteria**

Section	Subject	Comply (Yes/No)	Substantiation	Reference
B1.1	General		Simply repeating the statement contained in the bid solicitation is not sufficient. Bidders please describe	Bidders please clearly indicate where supporting documentation can be found in the bid.
B1.1.1	Environment and Climate Change Canada (PYLET in North Vancouver, BC) requires applicable vendors to supply and install one Liquid Chromatography Tandem Quadrupole Time of Flight Mass Spectrometer	Y/N	Bidders must submit documentation with their bid package that CLEARLY AND PRECISELY DEMONSTRATES how their system complies with the required specifications. The specifications given by a vendor must be demonstrated	

	<p>System, hereafter LC/QToF, at 2645 Dollarton Highway, North Vancouver, British Columbia, for the quantitative and qualitative analysis of a wide variety of trace level environmental organic compounds.</p> <p>Instrument System must me all GLP, ISO and CSA standards.</p> <p>The supplied LC/QToF shall include all parts/equipment/software/data storage capacity necessary for analysis. It is incumbent upon the Vendor to recommend specific hardware configurations for COMPLETE SYSTEMS that are GUARANTEED suitable for the purposes specified.</p>		during installation at no extra charge.	
<b>B1.2</b>	<b>Specifications and Standards</b>			
B1.2.1	<p>The System must be in accordance with the following specifications. If any additional components, peripherals or supplies are necessary to operate the instrument on arrival at the customer site, these must be included with the system. The system must be a new unit which must have full manufacturer's warranty. Demo or refurbished units will <u>not</u> be considered.</p>	Y/N		
<b>B1.3</b>	<b>Liquid Chromatography Tandem Quadrupole Time of Flight Mass Spectrometer (LC/QToF)</b>			

<b>B1.3.1</b>	<p>The Liquid Chromatography Tandem Quadrupole Time of Flight Mass Spectrometer (LC/QToF) System must consist of, but not be limited to, the following major components, complete with all software/hardware and interfacing necessary to make a fully integrated system:</p> <ul style="list-style-type: none"> <li>- Two high performance liquid chromatography (LC) pumps</li> <li>- One autodegasser</li> <li>- One thermostated Autosampler</li> <li>- One thermostated column compartment</li> <li>- One high resolution and high mass accuracy quadrupole time of flight mass spectrometer</li> <li>- Operating/Data System Software</li> <li>- Operating/Data System Hardware</li> <li>- System Implementation and Training</li> <li>- Service &amp; Support</li> <li>- System Performance Specifications</li> <li>- System Warranty</li> </ul>	Y/N		
<b>Liquid Chromatography (LC)</b>				
<b>B1.3.2</b>	The LC Subsystem must be an integrated part of the total system and designated for unattended operation. It must be under complete control of the operating/data computer system	Y/N		
<b>B1.3.3</b>	The LC Subsystem should include two high performance LC pumps, with integrated autodegasser, one	Y/N		

	thermostated autosampler, and one thermostated column compartment.			
<b>B1.3.4</b>	All mobile phase back pressures, flow rates, leak detection and flows to inlets and detectors electronically controlled via the computer system.	Y/N		
<b>B1.3.5</b>	All tubing, fitting, and regulators required for system installation must be included.	Y/N		
<b>B1.3.6</b>	The LC method should be part of the full method along with Automatic Sampling parameters, Mass Spectrometer settings, Data Processing options and Reporting Options.	Y/N		
<b>B1.3.7</b>	Flow rate range: 0.050 to 2 mL/min	Y/N		
<b>B1.3.8</b>	Accommodate at least 2 solvents during a gradient run	Y/N		
<b>Quadrupole Time of Flight Mass Spectrometer (QToF)</b>				
<b>B1.3.9</b>	<p>The QToF Subsystem must be an integrated part of the total system and designated for unattended operation and dedicated to perform LC/QToF.</p> <p>The QToF Subsystem must include a high resolution and high mass accuracy mass spectrometer, all relevant operating/Data System Software, operating/Data System Hardware, system implementation and training,</p>	Y/N		

	service & support and system performance specifications.			
<b>B1.3.10</b>	<p>The mass spectrometer must be of the high resolution and high accuracy type with resolution of at least 50,000.</p> <p><b>Note:</b> vendor must provide clear definition and specific conditions of achieving the specified resolution.</p>	Y/N		
<b>B1.3.11</b>	<p>Supplied with appropriate source for Electrospray (ESI).</p> <p>Capable of MS sensitivity of detecting 1 pg of reserpine on column at 400:1 signal to noise (S/N).</p> <p><b>Note:</b> vendor must provide definition and conditions of achieving the specified sensitivity.</p>	Y/N		
<b>B1.3.12</b>	<p>Capable of MS/MS sensitivity of detecting 1 pg of reserpine on column at 1000:1 signal to noise (S/N).</p> <p><b>Note:</b> vendor must provide definition and conditions of achieving the specified sensitivity.</p>	Y/N		
<b>B1.3.13</b>	<p>Capable of mass accuracy (MS mode) of less than 1 ppm.</p> <p><b>Note:</b> vendor must provide definition and conditions of achieving the required mass accuracy.</p>	Y/N		
<b>B1.3.14</b>	<p>Vacuum pumps: must provide all vacuum pumps required for instrument operation.</p>	Y/N		
<b>B1.3.15</b>		Y/N		



B1.4	System Implementation and Training			
B1.4.1	The system must be CSA approved.	Y/N		
B1.4.2	The system must include pre-installation site specifications to ensure site-readiness for installation. Specify SITE REQUIREMENTS including bench space, temperature and operating range, electrical connections (voltages and numbers), gases required, and any special requirements (venting, etc.).	Y/N		
B1.4.3	Installation and system performance report documentation after the system installation is required before acceptance and payment.			
B1.4.4	A minimum of 4 days of on-site training on the LC/QToF operation, method development, and data processing for a minimum of 4 participants.			
B1.4.5	At PYLET's discretion, the training specified at 2.5.4 may be substituted with a minimum of 4 days of on-site training on advance software on statistical data processing for wood species chemotyping and geographical source pattern recognition for a			

	minimum of 4 participants.				
<b>B1.4.6</b>	The system must be supplied with at least 1 set of consumable parts and tool kit necessary for maintaining operation.				
<b>B1.5</b>	<b>Warranty, Service &amp; Support</b>				
<b>B1.5.1</b>	The warranty will begin on the DATE OF ACCEPTANCE of the system by the scientific authority. The DATE OF ACCEPTANCE will be determined (after installation) by the bidder demonstrating that the SYSTEM meets all of the user's requirements, and the manufacturer's own performance specifications.	Y/N			
<b>B1.5.2</b>	Service technicians must be available to be on-site within 2 business days of a service request. Bidders must provide in writing their policy of a service response.	Y/N			
<b>B1.5.3</b>	Telephone support service calls must be responded to within one business day. Bidders must provide in writing their policy of service response.	Y/N			
<b>B1.5.4</b>	Application chemists must be available for method development, customized on-site or on-line applications support.	Y/N			

	Bidders must provide in writing their policy of service response.			
<b>B1.5.5</b>	Entire analytical system consisting of liquid chromatography, quadrupole time of flight mass spectrometer, autosampler, and software are built, serviced and warranted by one bidder.	Y/N		

## B2. Point Rated Criteria (Total points = 500 points; Pass mark = 350 points)

Bidders must score a minimum of 70% of the maximum points available. Proposals which fail to score the minimum of 70% will be deemed non-responsive and not considered further.

<b>B2.1</b>	<b>Liquid Chromatography (LC)</b>	<b>____/ 70</b>	<b>Substantiation</b> Simply repeating the statement contained in the bid solicitation is not sufficient. Bidders please describe how the devices meet the mandatory criteria.	<b>Reference</b> Bidders please clearly indicate where supporting documentation can be found in the bid.
<b>B2.1.1</b>	The LC system should be capable of performing as either a 'fast', 'ultra-performance' LC or as conventional LC. When used as an 'ultra-performance' LC system, it can provide analysis run times at least 75% shorter than conventional HPLC with no loss of resolution. This can be accomplished through a combination of higher operating pressures and flows, new column separation technologies, or by other means.	____/15		
<b>B2.1.2</b>	The LC system is able to run sub 2 µm particle size columns at a flow rate of up to 2.0 mL/min.	____/5		
<b>B2.1.3</b>	Flow rate range: 0.050 to 2 mL/min or higher (up to 5 mL/min).	____/5		
<b>B2.1.4</b>	Accommodate at least 2 solvents during a gradient run, or more solvents and selectable from 4 different solvent reservoirs.	____/5		

<b>B2.1.5</b>	Maximum operating pressure: at least 600 bar for flow rate under 2 ml/min.	____/5		
<b>B2.1.6</b>	Degasser: automatic and continuous on-line vacuum degassing.	____/5		
<b>B2.1.7</b>	pH range: pH 2 to 12.	____/5		
<b>B2.1.8</b>	Column thermostat compartment: Maintain temperatures in range of 5 °C above ambient to 40 °C or higher in no more than 1 °C increments.	____/5		
<b>B2.1.9</b>	Column switching valve included and under software control.	____/5		
<b>B2.1.10</b>	In-line degasser: integrated with pump with internal volume less than 2.0 mL per channel.	____/5		
<b>B2.1.11</b>	LC parts: any other items, including hardware and software not explicitly stated, required for the system to be qualified as per protocols stipulated by the vendor and accompanying documentation thereof.	____/5		
<b>B2.1.12</b>	LC pump maintenance torque wrench for in-house repair and services included.	____/5		
<b>B2.2</b>	<b>LC Autosampler (AS)</b>	<b>____ / 30</b>	<b>Substantiation</b> Simply repeating the statement contained in the bid solicitation is not sufficient. Bidders please describe how the devices meet the mandatory criteria.	<b>Reference</b> Bidders please clearly indicate where supporting documentation can be found in the bid.
<b>B2.2.1</b>	Minimum capacity: 48 vials or more up to 2 mL capacity each.	____/5		
<b>B2.2.2</b>	Injection volume: 0.1 to 100 uL or higher in 0.1 µL increments with no hardware changes.	____/5		

<b>B2.2.3</b>	Large Volume Injection: 10 to 2000 uL in 10 uL increments.	____/10		
<b>B2.2.4</b>	Integral heater and cooler for samples: programmable from 4-40 °C, in no more than 1°C increments.	____/10		
<b>B2.3</b>	<b>Mass Spectrometer</b>	____ / 100	<b>Substantiation</b> Simply repeating the statement contained in the bid solicitation is not sufficient. Bidders please describe how the devices meet the mandatory criteria.	<b>Reference</b> Bidders please clearly indicate where supporting documentation can be found in the bid.
<b>B2.3.1</b>	Mass stability: maintain <1 ppm mass accuracy variation when ambient temperature <3 °C from calibration temperature.	____/10		
<b>B2.3.2</b>	MS Range: at least m/z 50-8,000.	____/10		
<b>B2.3.3</b>	Linear dynamic range: up to 5 orders magnitude. <b>Note:</b> vendor must provide definition and conditions of achieving the specified linear dynamic range. MS Scan speed: at least 40 full scan spectra/second, MS/MS scan speed at least 20 spectra/second.	____/20		
<b>B2.3.4</b>	<b>Note:</b> vendor must provide definition and conditions of achieving the specified scan speed.	____/10		
<b>B2.3.5</b>	Positive and negative mode polarities: capable of switching and stabilization between positive and negative mode rapidly. Ideally, the system should be able to perform positive-negative ionization mode switching during one data acquisition run, i.e. from one single injection of sample. Please	____/10		

	comment in detail if this can occur only between scans.			
<b>B2.3.6</b>	Detector specification: Provide analog-to-digital conversion rate and data acquisition speed. Note: state and comment whether the detector preserves isotope ratio information (important for identification of unknown compounds).	____/10		
<b>B2.3.7</b>	Reference and Calibrant infusion: capable of infusion of standards for automated optimization of ion optics and full MS mass axis calibration. Ideally, on-board pumped infusion system capable of delivering reference solutions from stored standards under computer control. The instrument software must be capable of using both internal standards and lock mass functions.	____/10		
<b>B2.3.8</b>	Unique features for naphthenic acids detection and quantitation and general unknown screening: vendor should provide detailed information about the unique features that could contribute the success in the proposed projects at PYLET.	____/10		
<b>B2.3.9</b>	Data acquisition: capable of generating empirical formula using MS data comprising (1) exact mass of parent, (2) exact mass spacing of all isotopes, and (3) intensities of isotopes. Capable of identifying peaks corresponding to a list of compounds with known formula and retention time (in an automated fashion). Possibility to generate, in an automated fashion, high resolution Extracted Ion Chromatograms within +/- 1.5 mDa error for screening of unknown compounds from complex	____/10		

	matrices.				
<b>B2.4</b>	<b>Operating/Data Computer System Software</b>	<b>___ / 150</b>	<b>Substantiation</b> Simply repeating the statement contained in the bid solicitation is not sufficient. Bidders please describe how the devices meet the mandatory criteria.	<b>Reference</b> Bidders please clearly indicate where supporting documentation can be found in the bid.	
<b>B2.4.1</b>	In-house libraries: capable of creating MS/MS libraries for identification/confirmation of compounds of interests with the ability to use a compound database library manager to create and edit entries.	___/10			
<b>B2.4.2</b>	Software tool for large molecular compounds: the software must provide the capabilities or tools to carry out automated molecular weight determination of proteins and peptides. Ideally this should include entropy algorithms and molecular features extractor.	___/10			
<b>B2.4.3</b>	MS software compatibility: The MS software must permit simple, direct data transfer to common programs such as Microsoft Word, Excel, Power Point, etc. and the capability to generate pdf format files, export images and text files, and save data in standard format(s) readable by other MS software packages etc. Please provide a detailed list of these features.	___/5			
<b>B2.4.4</b>	Operating system: The PC computer system's operating system should be Microsoft Windows 10 Pro or (the latest Microsoft operating system) and must conform to Environment and Climate Canada's network security requirements.	___/10			

<b>B2.4.5</b>	Network compatibility: The PC computer should provide built-in networking compatible with standard network protocols: TCP/IP, Novell, DecNet, etc.	____/5		
<b>B2.4.6</b>	Instrument control: full control of instrumentation operation including fully automated system start-up and shut down, initial instrument calibration, parameter optimization, routine operations, calibration, data processing, report generation, etc.	____/5		
<b>B2.4.7</b>	Multi-tasking capabilities: the PC should provide multi-tasking capabilities and be able to acquire and process data in real time.	____/5		
<b>B2.4.8</b>	Graphical display: full graphical instrument control window with the ability to display system parameters concurrently in real time.	____/5		
<b>B2.4.9</b>	Diagnostics tools: provide internal diagnostics including error checking, troubleshooting and a complete fault log.	____/10		
<b>B2.4.10</b>	Calibration tools: various calibration modes including external and internal calibration. Multilevel linear and multilevel non-linear calibration capacity.	____/5		
<b>B2.4.11</b>	Software Help: comprehensive context sensitive help including hypertext links and index.	____/5		
<b>B2.4.12</b>	Data processing: full data processing and preprocessing capabilities including control or editing of chromatogram integration, compound identification, calibration curves, quantitation and reporting parameters without the need to re-run	____/5		



	samples.				
<b>B2.4.13</b>	Sample sequence control: ability to insert samples without stopping and restarting a previously started acquisition sequence.	____/5			
<b>B2.4.14</b>	Instrument Tuning: provide software based automatic tuning of HRMS instruments.	____/5			
<b>B2.4.15</b>	Data analysis: The software should include comprehensive tools for statistical analysis, data mining, and visualization, such as Analysis of variance (ANOVA); Principal component analysis (PCA); t-tests; Volcano plots; Hierarchical trees (dendrograms); Self-organizing maps (SOMs); Quality threshold (QT) clustering; Support vector machines (SVMs). Ideally, the data results should be capable of searching the METLIN database, established by the Scripps Research Institute for metabolomic identifications.	____/5			
<b>B2.4.16</b>	A multi-core type processor operating at 3.0 GHz or higher.	____/5			
<b>B2.4.17</b>	The desktop should feature a dedicated graphics card with at least 2 GB RAM for fast chromatogram rendition. The dedicated graphic board must be able to support dual monitor configuration.	____/5			
<b>B2.4.18</b>	Minimum of 16 GB RAM.	____/5			

<b>B2.4.19</b>	1 Tb hard drive	____/5		
<b>B2.4.20</b>	16x DVD-/±r RW drive	____/5		
<b>B2.4.21</b>	An on-board or dedicated, 10/100/1000 Base-T LAN network interface card to access the laboratory's network.	____/5		
<b>B2.4.22</b>	Two 24" LCD colour monitors that feature a minimum resolution of 1280x1024.	____/5		
<b>B2.4.23</b>	A network capable color laser printer with printing speed of at least 10 pages per minute and with at least one high speed USB 3.0 port.	____/5		
<b>B2.5</b>	<b>System Warranty, Implementation and Training</b>	<b>____ / 100</b>	<b>Substantiation</b> Simply repeating the statement contained in the bid solicitation is not sufficient. Bidders please describe how the devices meet the mandatory criteria.	<b>Reference</b> Bidders please clearly indicate where supporting documentation can be found in the bid.
<b>B2.5.1</b>	Four years on-site parts and labour warranty/maintenance agreement must include one preventative maintenance visit per year on all components. Both on-site and telephone support must be included as standard. Pricing for additional warranty should be included as options.	____/60		
<b>B2.5.2</b>	Long term technical support: provide instrument technical support for at least 8 years.	____/5		

<b>B2.5.3</b>	Provide training CD/DVD with instrument or on-line continuing training.	____/5		
<b>B2.5.4</b>	Vendor should be able to provide additional in-depth training in troubleshooting and method development.	____/30		
<b>B2.6</b>	<b>Total Instrument Package Suitability</b>	<b>____/ 50</b>	<b>Substantiation</b> Simply repeating the statement contained in the bid solicitation is not sufficient. Bidders please describe how the devices meet the mandatory criteria.	<b>Reference</b> Bidders please clearly indicate where supporting documentation can be found in the bid.
<b>B2.6.1</b>	State the suitability of the proposed system to meet the challenges of naphthenic acids, general unknown screening, genomics research, and other projects specified at Statement of Work and Deliverables.	____/50		