



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Travaux publics et Services gouvernementaux
Canada
Place Bonaventure, portail Sud-Est
800, rue de La Gauchetière Ouest
7^{ème} étage
Montréal
Québec
H5A 1L6
FAX pour soumissions: (514) 496-3822

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

Travaux publics et Services gouvernementaux Canada
Place Bonaventure, portail Sud-Est
800, rue de La Gauchetière Ouest
7^{ème} étage
Montréal
Québec
H5A 1L6

Title - Sujet Liquid Chromatograph+Mass Spectrom.	
Solicitation No. - N° de l'invitation H4005-151821/A	Date 2016-01-14
Client Reference No. - N° de référence du client H4005-151821	
GETS Reference No. - N° de référence de SEAG PW-\$MTA-280-13689	
File No. - N° de dossier MTA-5-38308 (280)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-02-24	Time Zone Fuseau horaire Heure Normale du l'Est HNE
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Blanchet, Annie A.	Buyer Id - Id de l'acheteur mta280
Telephone No. - N° de téléphone (514) 496-3519 ()	FAX No. - N° de FAX (514) 496-3822
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: MINISTERE DE LA SANTE Drug Analysis Service Toronto 2301 MIDLAND AVE-1st Floor Att: Rohan Khemraj Toronto, Ontario M1P4R7 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

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



Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM Destination	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
1	Équipement et approv Asset Master Number: 1018175	H4004	H4005	1	EA	\$	XXXXXXXXXXXX		
2	Équipement at approv. Asset Master Number: 1018175	H4004	H4005	1	EA	\$	XXXXXXXXXXXX		

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

TABLE OF CONTENTS

PART 1 - GENERAL INFORMATION

1. Requirement
2. Debriefings
3. Trade Agreements

PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions
2. Submission of Bids
3. Enquiries - Bid Solicitation
4. Applicable Laws

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures
2. Basis of Selection

PART 5 – CERTIFICATIONS AND ADDITIONNAL INFORMATION

PART 6 - RESULTING CONTRACT CLAUSES

1. Security Requirement
2. Requirement
3. Standard Clauses and Conditions
4. Term of Contract
5. Authorities
6. Payment
7. Invoicing Instructions
8. Certifications
9. Applicable Laws
10. Priority of Documents
11. SACC Manual Clauses

List of Annexes:

Annex A	Requirement
Annex B	Basis of payment
Annex C	Evaluation Document

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

PART 1 - GENERAL INFORMATION

1.1 Requirement

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

1.2 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.

1.3 Trade Agreements

"The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT)."

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** (2015-07-03) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

2.2 Submission of Bids

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

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

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 Quebec.

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.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that Bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (2 hard copies)

Section II: Financial Bid (1 hard copie)

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

Canada requests that Bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, Bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Applicable Taxes must be shown separately.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

3.1.1 Exchange Rate Fluctuation

[C3011T\(2013-11-06\), Exchange Rate Fluctuation](#)

Section III: Certifications

Bidders must submit the certifications 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

It is mandatory to provide the technical / descriptive documents of the product that you are offering (eg. drawing, data sheet, sketch, etc.) to allow it's technical evaluation. Failure to comply will render your bid non responsive.

You should demonstrate in your technical submission that your product is compliant with every characteristics mentioned in Annex A, Section 2. Requirements

4.1.1.1 Mandatory Technical Criteria

See Annex "A"

4.1.1.2 Point Rated Technical Criteria

See Annex "C"

4.1.2 Financial Evaluation

Total amount for financial evaluation:

Total for item 1 mentioned in Annex B added to the total price of optional goods for the 2 additional system added to the prices of the other optional goods (# 1 à 6) mentioned in Annex"B".

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

4.1.2.1 SACC Manual Clauses

SACC Manual Clause A0222T (2014-06-26), Evaluation of Price

4.2. Basis of Selection

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

1. To be declared responsive, a bid must:
 - a. comply with all the requirements of the bid solicitation; and
 - b. meet all mandatory criteria; and
2. Bids not meeting requirements will be declared non-responsive.
3. The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 70% for the technical merit and 30% for the price.
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 70 %.
5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 30 % .
6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
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.

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 60/40 ratio of technical merit and price, respectively. The total available points equals 135 and the lowest evaluated price is \$45,000 (45).

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

Basis of Selection - Highest Combined Rating Technical Merit (60%) and Price (40%)				
		Bidder 1	Bidder 2	Bidder 3
Overall Technical Score		115/135	89/135	92/135
Bid Evaluated Price		\$55,000.00	\$50,000.00	\$45,000.00
Calculations	Technical Merit Score	$115/135 \times 60 = 51.11$	$89/135 \times 60 = 39.56$	$92/135 \times 60 = 40.89$
	Pricing Score	$45/55 \times 40 = 32.73$	$45/50 \times 40 = 36.00$	$45/45 \times 40 = 40.00$
Combined Rating		83.84	75.56	80.89
Overall Rating		1st	3rd	2nd

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

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. 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 Declaration of Convicted Offences

As applicable, pursuant to subsection Declaration of Convicted Offences of section 01 of the Standard Instructions, the Bidder must provide with its bid, a completed [Declaration Form](http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-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 – List of Names

Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Bidder.

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.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

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](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from [Employment and Social Development Canada \(ESDC\) - Labour's](#) website.

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.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

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 this Contract.

6.2 Requirement

The Contractor must provide the items detailed under the "Requirement" at Annex "A".

6.2.1 Optional Goods and/or Services

The Contractor grants to Canada the irrevocable option to acquire the goods, services or both described at Annex "B" (Optional goods) 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 36 months after contract award by sending a written notice to the Contractor.

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

2030 (2015-09-03), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

6.3.2 Supplemental general conditions

4001 (2015-04-01), Hardware Purchase, Lease and Maintenance, apply to and form part of the Contract.

6.4 Term of Contract

6.4.1 Delivery Date

The delivery and the installation of the system must be carried out before March 31, 2016.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

6.4.2 Period of the Contract

The period of the Contract is from date of issue for 3 years.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Annie Blanchet
Title: Supply Specialist
Public Works and Government Services Canada
Acquisitions Branch

Telephone: 514-496-3519
Facsimile: 514-496-3822
E-mail address: annie.blanchet@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 Technical Authority

The Technical Authority for the Contract is:

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone : _____
Facsimile: _____
E-mail address: _____

The Technical Authority named above 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 Technical Authority, however the Technical 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.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

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 price, as specified in contract for a cost of \$ _____ insert the amount at 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.

6.6.2 Limitation of Price

SACC Manual clause C6000C (2011-05-16) Limitation of Price

6.6.3 SACC Manual Clauses

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

SACC Manual clause C2000C (2007-11-30) Taxes - Foreign-based Contractor

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:
The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

6.8 Certifications

6.8.1 Compliance

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing additional information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the additional information, or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

6.9 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in _____. (*Insert the name of the province or territory as specified by the Bidder in its bid, if applicable*)

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, Lease and Maintenance
- (b) the general conditions 2030 (2015-09-03), General Conditions - Higher Complexity - Goods
- (c) Annex A, Requirement;
- (d) Annex B, Basis of payment
- (e) Annex C, Evaluation Document
- (f) 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)*)

6.11 SACC Manual Clauses

SACC Manual clause A9068C (2010-01-11) Government Site Regulations

SACC Manual clause G1005C (2008-05-12) Insurances

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

Annex A - Requirements

SPECIFICATIONS FOR THE ACQUISITION OF A LIQUID CHROMATOGRAPH + TANDEM MASS SPECTROMETER INSTRUMENT SYSTEM

1. Scope

1.1. Title

SPECIFICATIONS FOR THE ACQUISITION OF A LIQUID CHROMATOGRAPH + TANDEM MASS SPECTROMETER INSTRUMENT SYSTEM

1.2. Introduction

The Drug Analysis Service Programme (DAS) of Health Canada is planning to acquire over three years up to three Liquid Chromatography – Triple Quad Mass Spectrometer (LC-MS/MS) system instruments (one for each of its DAS regional labs – Toronto, Vancouver & Montreal) to carry on enforcement activities in support of the Controlled Drugs and Substances Act on illicit drugs and abused pharmaceutical compounds.

1.3. Objectives of the Requirement

The LC-MS/MS will be used among others for the routine analysis of the following projects:

1. Psilocybin & Psilocin analysis in a plant or food matrix with little clean up.
2. Fentanyl and related analogues quantitation in counterfeit pharmaceutical products or street heroin samples with no clean up.
3. Thermolabile substituted phenethylamines / amphetamines and related designer drugs with no clean up.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

The uHPLC-triple quad MS equipment that will best suit our needs will: easily allows for multiusers (up to 17 chemists), easy switching between MS/MS identification and quantitative methods as well as being able to handle the typical concentration range for seized forensic drugs (not to be confused with forensic toxicology), reduce possible risks of contamination of the instrument, and offers user friendly and efficient work interface. Single quad instruments do not qualify.

The most important performance considerations are dynamic range of sensitivity (in the analysis of trace amount of analytes in matrix extracts, or trace level of highly potent drugs mixed with significant quantity of much less potent drug eg Fentanyl mixed with Heroin & Caffeine), repeatability, reliability, robustness of use in a multi - user and method environment, as well as simplicity of operation.

Due to the concentration of mixtures presented in street drugs the Liquid Chromatograph, PDA and MS/MS analyzer must be configured to handle typical DAS sample handling procedures. As such the LC-MS/MS must be equipped with a flow splitter post PDA detector but before the MS/MS source to reduce the total quantity of the sample mixture sent to the MS/MS analyzer. Sample mixtures are typically prepared at concentrations of approximately 1mg/ml and often will contain between 3 to 10 or more components in varying concentrations.

The proposed instrument models must have been on the market for a least a year, so that we do not test a new model and must be a model that will be supported by the manufacturer for at least 8 years after the purchase.

All proposed equipment must comply with all the mandatory specifications.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

2. Requirements

2.1. Tasks, Activities, Deliverables and Milestones

All Specifications below are Mandatory, unless specified as an asset.

Technical specifications

1. MASS SPECTROMETER

Must be able to perform MS/MS type of analysis routinely, with very good sensitivity and repeatability even with dirty sample extracts. See mandatory performance specifications in Annex C, section title (**Performance Assessment of the UPLC/mass spectrometer and of the software**).

- 1.1 Must have the capacity to perform the following experiments: MS scan, SIM (selected ion monitoring), product ion scan, precursor ion scan, neutral loss, MRM (or SRM), "triggered MRM" or "data-dependant triggered scan" mode.
- 1.2 Must have an ESI (electrospray) source and an APCi (atmospheric pressure chemical ionisation) source. The ESI/APCi source(s) will have to pass all of the performance tests as described in Annex C, section title (**Performance Assessment of the UPLC/mass spectrometer and of the software**). These tests will be done again on-site after installation of the instrument.
- 1.3 The instrument must have the capability for switching between positive and negative ionisation mode within time segments of a chromatographic run.
- 1.4 Must have a scan speed of at least 5000 Amu / second
- 1.5 Must have the possibility of 100 MRM channels or 100 SRM experiments. A unique time segment where acquisitions are adjusted to the retention time window of a peak is a definite (dynamic MRM).
- 1.6 Must show mass stability of 0.1 Amu over an 8-hour period.
- 1.7 Must have less than 5 msec dwell time capability, without "cross-talk".

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

- 1.8 Must have interchannel delay (inter-MRM) of less than 5 msec, or 50 msec between +/- mode switching.
- 1.9 Must have a Collision cell or equivalent mode to induce fragmentation for MS/MS analysis.
- 1.10 When operated in full scan mode, the mass analyzers must have at least unit mass resolution.
- 1.11 Both mass analyzers must have a mass range of at least 30 to 1200 amu.
- 1.12 The configuration of the ionisation probe should have at least a 45° angle vs the orifice but a higher angle will be preferred.
- 1.13 MS/MS parameters (collision energies) must be programmable for each specific ion pairs within an MS/MS experiment.
- 1.14 The mass spectrometer source must be compatible with flow rates used in regular HPLC work, 0.04 to 0.9 ml/min in ESI (0.1 to 2.0 ml/min for APci).
- 1.15 The Mass Spectrometer must come equipped with an infusion module or flow programmable syringe pump to allow a solution to be introduced directly in to the source without requiring an LC. This is for unique samples or method development of a known analyte.
- 1.16 Must have at least 1 "contact closure" for "start/stop signal" from external instrument.
- 1.17 Must have "Autotune" capability, that is, an easy way to regularly check masses accuracy from a standard solution.
- 1.18 Must be capable of user generated mass spectral libraries.
- 1.19 Must have been on the market for a minimum of one year.
- 1.20 If the bid includes a roughing vacuum oil pump that a noise reduction enclosure must be included.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

2. Ultra HIGH PERFORMANCE LIQUID CHROMATOGRAPHY SYSTEM (UHPLC)

Must comprise the following characteristics or modules:

2.1 Pump (binary), capable of operating up to 14000 psi and up to 2.0 mL/min.

- It must be capable of pumping up to 2.0 mL / min.
- Flow precision less than 0.3% RSD.
- It must have low dead volume (less than 200 uL) between pump to column head.
- Must have an In-line degassing unit with at least 4 different channels (for the 4 mobiles phases).
- Must be Compatible with mobile phases of a broad pH range (at least pH 2-10), including buffers.
- Must mix Solvents before reaching the column.
- Safety: Fluidic connections monitored by electronic leak detectors, the system includes a maximum/minimum pressure shut-off, provides early warning of leakages.

2.2 Injector-autosampler with a capacity of 96 - 2ml vials or more. Must have a cooling system to keep the samples cooled to +4 °C. Injector volumes from 1 to 40 ul without having to change hardware, loops or syringes or needles.

2.3 Column oven compartment:
A column manager or compartment capable of permanently holding at least 3 columns; It must also have a switching valve to allow switching between 2 different columns installed in the column compartment.

Must be temperature-controlled, from ambient to 80°C.

2.4 A PDA detector is to be included (PDA-UV-Vis), and must be a fast scanning (80 Hz rate or more) and connected serially to the mass spectrometer.

- Spectral range of at least 190 to 500 nm.
- Acquire at least 5 wavelengths simultaneously.
- Wavelength accuracy be at least +/- 1 nm.
- Include appropriate low-flow cell for the UHPLC.
- Include spectral software for analysis of UV data.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

- 2.5 Diverting valve: Instrument must have a multiport diverting valve programmable from data system to allow the solvent flow to be diverted away from the source (to waste or fraction collector) after the PDA detector.
- 2.6 The whole HPLC system (pump, injector, detector, acquisition and data analysis) must have the capacity to be fully controlled by the mass spec operating system.

3. MS/MS DATA SYSTEM

The proposed software must at minimum perform all the following operations:

- 3.1 Full Mass Spectrometer instrument control, mass and resolution calibration and reporting, diagnostic (e.g. vacuum/pressure reading).
- 3.2 Must have the ability to record MS data when using the syringe pump or infusion module specified in Section 1.14.
- 3.3 Must control all functions of the HPLC system provided with the LC/MS/MS system: run parameters control, pump, autosampler, column oven temperature, run status display, UV or fluorescence detector data analysis and reporting. In this way, no other software is needed for the provided HPLC system.
- 3.4 Must be able to add more samples to a running sequence or an equivalent way to queue additional samples.
- 3.5 Must have the capacity for a sequence table of at least 100 entries, with capacity for entering either of multipliers/divisors/dilution factors and calibration standards concentrations. Must be able to run a fully automated sequence of analyses and perform data acquisition, data reduction and final report printing.
- 3.6 Must have an automated "shutdown" capability for unattended purposes.
- 3.7 Calibration must be possible for at least 10 compounds each with their own curve fit type (quadratic/linear), weightings (1/x, 1/X2...), and integration parameters.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

- 3.8 Must be able to printout MS Chromatograms, spectral and calibration curves, UV spectral data automatically post run.
- 3.9 Quantitative data analysis; reporting and spreadsheet capability; also, the data system must allow to export the data to a spreadsheet program such as MS-EXCEL without loss of formatting (numbers vs text). Also required is the capability of exporting a chromatogram to .pdf or equivalent format that can be read on any other office computer that doesn't have the chromatography software.
- 3.10 Multi-tasking operations, (ability to perform data acquisition while processing and editing previous data in an off-line session).
- 3.11 System method/experiment operating parameters automatically logged within the raw data file is an asset.
- 3.12 It is an asset if the system has the ability to build a sequence list with the use of a barcode reader and if the autosampler reads the barcode of the injected sample vial and report it back to the data system.
- 3.13 Report customization by the operator must be possible without macro programming ability.
- 3.14 Must be able to print complete reports, with filenames, sample i.d., chromatogram/spectra of extracted ions, clear peaks integration baseline, together with peaks areas, qualifier ion ratios and calculated concentrations.
- 3.15 Software updates: Vendor must supply all well-tested software updates for a minimum of 3-year period for free, as they become available.
- 3.16 One colour laser printer (ability to duplex) with a 250 to 500 page tray capacity.
- 3.17 Must provide a user-friendly environment that enables efficient navigation throughout the analytical process (ex: build method, build sequence, data processing, reporting).

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

5. MANDATORY EQUIPMENT SPECIFICATIONS

The LC-MS/MS system must have been on the market for a minimum of a year and must be a model that will be supported by the manufacturer for at least 8 years after the purchase.

- 5.1 The supplier must include in the quote all the necessary items required for the system to be fully operational, such as vacuum rough pumps, turbomolecular pumps, infusion pumps, diverting valve, computer, screen, softwares for instrument control and complete data analysis and reporting (section 3, MS/MS DATA SYSTEM), communication cards needed for interfacing computer and data system to the MS and to the HPLC system, this must be specified together with its price in the quotation. If a special bench is needed to support the instrument, it must be included in the quote.
- 5.2 Also, communication cards, connectors, communication box and cables needed to link the different modules together and to the computer must be included in the quotation.
- 5.3 The mass spectrometer instruments must work on 60 Hz North American electrical system, either 110 or 220 Volts. The accessories (computer etc) must be compatible with 110V.
- 5.4 The supplier must write down what **utilities** are required:
 - electric system voltage and amp.
 - cooling water,
 - gas type, pressures and flow rates required
 - others

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

6. COMPUTER, DATA SYSTEM AND SOFTWARE

The specifications in this section are written on the assumption that the data system will be a PC compatible computer.

The computer, windows operating system and instrument operating system software must be included in the quote.

6.1 The computer must be powerful enough to allow simultaneously instrument control and data acquisition while doing data analysis.

6.2 Must have a DVD-Writer for backups and archiving of data and methods.

6.3 PC network card requirements: PC computer must be able to accept a second network (NIC) card.

Two NIC cards must be included – one for the external work station option and a second one for the DAS lab instrument network.

6.4 Must have a high resolution colour graphics flat panel monitor of 21 inches or more, with proportional height / width.

6.5 One colour laser printer (ability to duplex) with a 250 to 500 page tray capacity.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

7. SERVICE AND SUPPORT

7.1 System delivery of 1st unit must be carried out and installed before or on March 31st 2016, the subsequent units before or on March 31st of the fiscal year in which they are ordered.

7.2 In order to do so, the supplier must specify the requirements for **electricity** (voltage and current), cooling **water, gas supply needed** (type, pressure and total flow) and bench space needed. The receiving Regional DAS Lab will take the necessary arrangements to get all the necessary services installed before the instrument set up.

7.3 "Acceptance of the instrument" means here the date at which the instrument will perform as expected in the manufacturer brochures and to our expectations (Annex C, section "Performance Assessment of the mass spectrometer"). In addition to manufacturer test samples, we will run the same test samples that are described in Annex C. The same performance is expected to the results presented in the bid package to demonstrate the instrument suitability

7.3.1 The instrument will not be accepted until the assessment samples described in Annex C can be run under the method, printout out the report containing the UV-Vis chromatogram and MS/MS spectra of the test analytes as well as the additional quantitative report as required.

7.4 Instruction manuals for the hardware and software, manuals of schematics, where appropriate, lists and description of spare parts must be supplied with the instrument. These manuals must be sufficiently complete and cover the Hardware and Software part of the instruments. They must describe the instrument operations, calibration, regular maintenances and repairs, parts identification, hardware and electrical troubleshooting.

Manuals must be included for all component software; for programming of software utilities (i.e. system operation/processing macros, targeting/quantitation package(s) and report generator(s)).

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

- 7.5 A sufficient supply of consumables must be supplied at installation time in order to start up and run the instrument until the first purchase of consumables can be made. These include capillaries and connectors for columns, zero-dead-volume unions, and pre-column filters.

If not clearly listed in a provided user manual, a list of regularly needed replacement parts with the part numbers must be provided, or easily accessible on the vendor internet site without having to register and enter user names and passwords every time.

- 7.6 Must provide recommended spare parts kit(s) for the LC, autosampler and the MS (approximately a one year supply) as well as initial consumable items to last until additional supplies can be procured. Examples are MS cones, LC pumps seals, check-valves, rotor seal, needle seat.

A list of recommended spares parts and their price must be included.

- 7.7 Appropriate tools for user servicing and maintenance (e.g. Allen keys, Torx screwdrivers, pump piston/plunger-removal/installation tools etc...) must be supplied.

- 7.8 On-site training must be provided (**minimum of 5 days after the instrument is operational and tested**), covering the following:

Daily Operation and methods set-up (LC and MS);

Compounds optimisation and MRM method set up.

Calibration of the MS.

Basic maintenance and repairs of both LC and MS; source cleaning, probe capillary replacement.

Testing of the system (LC pressure-leak tests, system-suitability tests).

Data analysis: calibration curves, integration parameters, production of quantitative reports; exportation of data to EXCEL spreadsheets, etc.

- 7.9 Supplier must provide all **well tested** updates to the software supplied with the system for 3 years after acceptance of the instrument. "Acceptance of the instrument" means here the date at which the instrument will work at the satisfaction of the user.

- 7.10 Competent and helpful Phone technical support (hardware and software issues) is an important aspect. Availability of this service in French is also an important asset.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

8. PROTECTIVE CIRCUIT

8.1 Must be protected against excessive ion source or analyzer pressure.

The vacuum system must allow for an automated shutdown after a power failure.

9. OPTIONAL EQUIPMENT

9.1 **An uninterrupted power supply system (UPS)** to support the whole LC-MS/MS system in the event of power failure in order to complete an analysis if underway without losing the data.

9.2 **Dry rough pump (s)** to replace oil-containing rough pumps.

9.3 **Preventive Maintenance Kit** or equivalent replacement parts kit not covered under the warranty.

9.4 **Nitrogen Generator** to meet the requirements of the MS/MS spectrometer.

9.5 **Additional year Warranty – please define coverage and exclusions**

9.6 **A second workstation** with the same hardware and software licenses meeting the same requirements as the main data system must be included in the bid as a separate line item. This workstation will allow off-line processing of data via network connection (to the main computer and to printer). All cables and cards needed to communicate with the main computer and to the printer must be supplied.

This second computer will also act as a backup in the event of a failure of the main control computer.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

3. Additional Information

System delivery of 1st unit must be carried out and installed before or on March 31st 2016,
the subsequent units before or on March 31st of the fiscal year in which they are ordered.

The equipment must be installed and operating to the satisfaction of the user, in terms of functionality, performance and punctuality. The first system will have to be delivered to the following laboratory:

Drug Analysis Service, Toronto:

ON, Canada

M1P 4R7

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

Annex B -Basis of payment

	Description	Quantity	Price
1	Liquid Chromatography – Triple Quad Mass Spectrometer (LC-MS/MS) system instruments including all the required components mentioned in Annex A.	1	\$ _____
1.1	Delivery and installation (Toronto, Ontario)	1	\$ _____
1.2	Training on site	1	\$ _____
	Total		\$ _____

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

Annex B -Basis of payment

Optional goods :

The price for the optional goods must be valid for a period of 36 months following the contract award.

	Description	Quantity	Price
1	Identical system including all the required components mentioned in Annex A to be delivered and installed in Montreal, Qc.	1	\$ _____
1.1	Delivery and installation (Montreal, Quebec)	1	\$ _____
1.2	Training on site	1	\$ _____
	Total		\$ _____

	Description	Quantity	Price
2	Identical system including all the required components mentioned in Annex A to be delivered and installed in Vancouver , C-B.	1	\$ _____
2.1	Delivery and installation (Vancouver , Colombie-Britannique)	1	\$ _____
2.2	Training on site	1	\$ _____
	Total		\$ _____

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

Annex B -Basis of payment

Other optional goods :

The price for the optional goods must be valid for a period of 36 months following the contract award.

	Description	Quantity	Price
1	An uninterrupted power supply system (UPS) to support the whole LC-MS/MS system in the event of power failure in order to complete an analysis if underway without losing the data.	1	\$ _____
2	Dry rough pump (s) to replace oil-containing rough pumps	1	\$ _____
3	Preventive Maintenance Kit or equivalent replacement parts kit not covered under the warranty	1	\$ _____
4	Nitrogen Generator to meet the requirements of the MS/MS spectrometer.	1	\$ _____
5	Additional year Warranty – please define coverage and exclusions	1	\$ _____
6	A second workstation with the same hardware and software licenses meeting the same requirements as the main data system must be included in the bid as a separate line item. This workstation will allow off-line processing of data via network connection (to the main computer and to printer). All cables and cards needed to communicate with the main computer and to the printer must be supplied. This second computer will also act as a backup in the event of a failure of the main control computer.	1	\$ _____

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

Annex C

Evaluation document

UHPLC MS-MS Triple quad - Evaluation rating document

Overall maximum possible score: 300 pts

Bids will be ranked based upon results of testing, as defined in section below (**Performance Assessment of the UPLC/mass spectrometer and of the software**) and the cost with a relative ratio of 70:30 respectively. 70 % of the points will be allowed for the technical evaluation of the instrument as described below (210 points), and 30% of the points will be allowed for the cost of the system (90 points). Therefore, the complete evaluation of the various proposals will be based on a grand total of 300 points.

❖ **Performance Assessment of the UPLC/mass spectrometer and of the software**

- Tenders will have to run evaluation samples provided by the buyer to demonstrate the performances of their instrument.
- To demonstrate the ease of use of the software, the bidder will have to provide the interface to the buyer via: video showing the functionalities listed by the buyers, enabling the evaluation of the software in action.
 - A separate document describing in detail the tests to run and the functionalities of the software to be illustrated (accessible format for consultation) will be sent with the assessment samples to the bidder, upon request to the Contracting Officer identified on page 1 of this document. Results of the analytical tests performed on samples, reports produced (PDF, word or excel format) as well as the software video must be included as part of the supplier's bid.
 - Performance assessment will be conducted by Procurement Division of PWGSC, in collaboration with Health Canada's scientists.

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

MANDATORY SPECIFICATIONS

Description of how the system meets the specifications must be given wherever possible. Simple statements such as "meets" are not sufficient to make comparisons between systems.

NOTE: Suppliers may be required to demonstrate selected specifications on working models of their bid instrument as part of the evaluation process.

RATED CRITERIA

1. MASS SPECTROMETER (53pts)

1.4 . (20pts)

Must have a scan speed of at least 5000 Amu / second.

5000:	4pt
5001-8000:	8pts
8001-11000:	12pts
11001-14000:	16pts
14001+:	20 pts

1.8 (3 pts)

Must have interchannel delay (inter-MRM) of less than 5 msec, or 50 msec between +/- mode switching.

Mode switching + interchannel delay/pause:

20ms and - :	3pts
21-40ms:	2pts
41ms +:	1pt

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

1.12 (30 pts)

The configuration of the ionisation probe should have at least a 45° angle vs the orifice but a higher angle will be preferred.

Angle (°)	points
45-49	3
50-54	6
55-59	9
60-64	12
65-69	15
70-74	18
75-79	21
80-84	24
85-89	27
90	30

2. Ultra High performance liquid chromatography system (UHPLC) (20pts)

2.2 (20pts)

Injector-autosampler with a capacity of 96 - 2ml vials or more. Must have a cooling system to keep the samples cooled to +4 °C. Injector volumes from 1 to 40 ul without having to change hardware, loops or syringes or needles

Vial capacity:

96-100: 5pts

101-150: 10pts

151-200: 15pts

200+: 20pts

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

3. MS/MS data system (107 pts)

3.11 (7pts)

System method/experiment operating parameters automatically logged within the raw data file is an asset.

Yes: 7pts

No: 0pt

3.12 (20pts)

It is an asset if the system has the ability to build a sequence list with the use of a barcode reader and if the autosampler reads the barcode of the injected sample vial and report it back to the data system.

Available barcode reader:

Yes: 10pts

No: 0pt

Ability to build a sequence using the barcode reader:

Yes: 10pts

No: 0pt

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

3.17 (80 pts)

Must provide a user-friendly environment that enables efficient navigation throughout the analytical process: Calibration; Method/tune; build sequence; data processing/reprocessing without rerunning sample; custom reporting.

Calibration: (10 pts)

- Automatic mass calibration
- Etc...

Method / Tune: (15 pts)

- Compound identification
- Integrated auto-tune, clarity of commands
- Multi-segment method configuration
- Data dependent acquisition
- Etc...

Build Sequence: (15 pts)

- able to add more samples to a running sequence or an equivalent way to queue additional samples.
- Option for online sample dilution / online sample preparation
- capacity for a sequence table of at least 100 entries,
- Etc...

Data processing/reprocessing (without re-running samples): (20pts)

- Editing chromatograms integration
- Ion extraction from a scan
- Ion ratio calculation
- Automated quantitation results
- Etc...

Custom reporting: (20 pts)

- Compound identification
- Calibration curves / Linear regression
- Report customization by the operator must be possible without macro programming ability.
- Must be able to print complete reports, with filenames, sample i.d., chromatogram/spectra of extracted ions, clear peaks integration baseline, together with peaks areas, qualifier ion ratios and calculated concentrations.
- Etc...

Solicitation No. - N° de l'invitation
H4005-151821/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
mta280

Client Ref. No. - N° de réf. du client
H4005-151821

File No. - N° du dossier
MTA-5-38308

CCC No./N° CCC - FMS No./N° VME

SCALE
DEFINITION FOR
3.17

Score on 5	Score on 10	Score on 15	Score on 20	Description
5	10	15	20	The whole of the elements of answers is superior; many additional dimensions have been added.
4.5	9	13.5	18	The whole of the elements of answers is fully satisfactory; many additional dimensions have been added.
4	8	12	16	The elements of answers are fully satisfactory; one or two additional dimensions have been added.
3.5	7	10.5	14	The elements of answers are satisfactory and meet the requirements in general.
3	6	9	12	The whole of the elements is satisfactory; although certain dimensions have been omitted.
2.5	5	7.5	10	Some elements of answers have been omitted; many dimensions have not been met with an important gap.
2	4	6	8	Many essential elements of answers have been omitted; many dimensions have not been met. The majority of the requirements has not been met.
1.5	3	4.5	6	Some elements of answers are wrong or missing. The majority of the requirements has not been met.
1	2	3	4	The majority of elements of answers is wrong or missing; the whole of the requirements has not been met.
.5	1	1.5	2	The whole of the elements of answers is not appropriate, wrong or missing.

Solicitation No. - N° de l'invitation
H4005-151821/A

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H4005-151821

File No. - N° du dossier
MTA-5-38308

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4. Performance Assessment of the UPLC/mass spectrometer and of the software (20pts)

4.1 (20pts)

Tenders will have to run evaluation samples provided by the buyer to demonstrate the performances of their instrument.

4.2 (will be rated along with 3.17)

To demonstrate the ease of use of the software, the bidder will have to provide the interface to the buyer via a video, enabling the evaluation of the software in action.

7.0 Service and support (10 pts)

7.10 (10 pts)

Competent and helpful Phone technical support (hardware and software issues) is an important aspect. Availability of this service in French is also an important asset.

French support:

Yes: 10 pts

No: 0 pt

8.0 Financial Evaluation (90 pts)

The less expensive bid (ex: at 30 000\$) would have 90 pts leading to that result: $(30,000\$/30,000\$) \times 90 = 90$ pts. The second less expensive (ex 31 000\$): $30,000/31,000 \times 90 = 87$ points., etc.