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Bid Receiving Public Works and Government  
Services Canada/Réception des soumissions Travaux  
publics et Services gouvernementaux Canada  
800 Burrard Street, 2nd Floor  
800, rue Burrard, 2e étage  
Vancouver, BC V6Z 0B9  
Bid Fax: (604) 775-7526

**SOLICITATION AMENDMENT**  
**MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise  
indicated, all other terms and conditions of the Solicitation  
remain the same.

Ce document est par la présente révisé; sauf indication contraire,  
les modalités de l'invitation demeurent les mêmes.

**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  
800 Burrard Street, 12th Floor  
800, rue Burrard, 12e étage  
Vancouver, BC V6Z 0B9

|   |  |
|---|--|
| <b>Title - Sujet</b><br>Mass Spectrometer (TOF)   |  |
| <b>Solicitation No. - N° de l'invitation</b><br>H4134-133092/A  | <b>Amendment No. - N° modif.</b><br>001      |
| <b>Client Reference No. - N° de référence du client</b><br>H4134-133092   | <b>Date</b><br>2013-12-27                    |
| <b>GETS Reference No. - N° de référence de SEAG</b><br>PW-\$VAN-532-7146  |  |
| <b>File No. - N° de dossier</b><br>VAN-3-36202 (532)  | <b>CCC No./N° CCC - FMS No./N° VME</b>       |
| <b>Solicitation Closes - L'invitation prend fin</b><br><b>at - à 02:00 PM</b><br><b>on - le 2014-01-22</b>  |  |
| <b>F.O.B. - F.A.B.</b><br><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><br>Takasaki, Alan H.  | <b>Buyer Id - Id de l'acheteur</b><br>van532 |
| <b>Telephone No. - N° de téléphone</b><br>(604) 775-7605 ( )  | <b>FAX No. - N° de FAX</b><br>(604) 775-7526 |
| <b>Destination - of Goods, Services, and Construction:</b><br><b>Destination - des biens, services et construction:</b>   |  |

**Instructions: See Herein**

**Instructions: Voir aux présentes**

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

**Solicitation # H4134-133092/A**

The above referenced solicitation is amended as follows;

**Solicitation Closes:**

**Delete:** 2014-01-07

**Insert:** 2014-01-22

**Part 2 - BIDDERS INSTRUCTION****Insert:****4 Equivalent Products:**

1. Products that are equivalent in form, fit, function and quality to the item(s) specified in the bid solicitation will be considered where the Bidder:
  - a) designates the brand name, model and/or part number of the substitute product;
  - b) states that the substitute product is fully interchangeable with the item specified;
  - c) provides complete specifications and descriptive literature for each substitute product;
  - d) provides compliance statements that include technical specifics showing the substitute product meets all mandatory performance criteria that are specified in the bid solicitation; and
  - e) clearly identifies those areas in the specifications and descriptive literature that support the substitute product's compliance with any mandatory performance criteria.
2. Products offered as equivalent in form, fit, function and quality will not be considered if:
  - a) the bid fails to provide all the information requested to allow the Contracting Authority to fully evaluate the equivalency of each substitute product; or
  - b) the substitute product fails to meet or exceed the mandatory performance criteria specified in the bid solicitation for that item.
3. In conducting its evaluation of the bids, Canada may, but will have no obligation to, request bidders offering a substitute product to demonstrate, at the sole cost of bidders, that the substitute product is equivalent to the item specified in the bid solicitation.

**Part 4 - Evaluation Procedure and Selection Method****Article 2.1 Basis of Selection - Highest Combined Rating of Technical Merit and Price**

**1d) Delete:** The rating performance on a scale of 105 points.

**1d) Insert:** The rating performance on a scale of 125 points.

**Part 6 - Resulting Contract Clauses****2. Requirement:**

**Delete:** Time of Flight (TOF)

**Insert:** Time of Flight (TOF) or Equivalent

**Annex A Requirement**

**Delete:** in it's entirety

**Insert:** Annexe A ( December 27, 2013)

**Question 1)** Can you please confirm what level of pump noise is acceptable for mandatory specification E13? An Oil-free scroll pump which has lower noise characteristics can be provided to preclude the need for a noise enclosure.

**DAS response 1):** As there are several instruments in the same room the pump enclosure is required to reduce the noise so that individuals can work long periods of time without having to wear protective hearing equipment. We cannot determine the noise level of a proposed scroll pump in our operating environment. Therefore the enclosure is mandatory.

**Question 2)** Can you elaborate on the following requirement regarding the optional uHPLC system; "F5.6.1 Connect serially to the mass spectrometer."

**DAS response 2):** Serially refers to the sample flow: ie. the sample must proceed through the diode array detector first and then to the MS.

**Question 3)** Would the crown consider a Diode Array Detector that could meet the spectral range required (F5.6.2) with a single lamp as opposed to the dual lamp combination requested (F5.6.5)? This would provide for lower cost of operation of the system without compromising performance or sensitivity.

**DAS response 3):** DAS would consider a single lamp as opposed to a dual lamp providing the same spectral wavelength range is covered by the single lamp replacement.

### **Annex B - Basis of Payment,**

#### **item # 1 Description**

**Delete:** TOF

**Insert:** TOF or equivalent.

### **Annex C Point Rated Criteria**

**Delete:** In it's entirety

**Insert:** Annex C (December 27, 2013)

### **Form B Substantiation of Technical Compliance Form**

**Delete:** In itès entirety

**Insert:** Form B (December 27, 2013)

All other terms and condition remain unchanged.

Solicitation No. - N° de l'invitation

H4134-133092/A

Amd. No. - N° de la modif.

001

Buyer ID - Id de l'acheteur

van532

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

H4134-133092

File No. - N° du dossier

VAN-3-36202

CCC No./N° CCC - FMS No/ N° VME

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**NOTE TO BIDDERS:** Please use ONE of the two mailing labels below and affix it securely to the outside of the envelope or package containing your bid submitted by mail or courier. For bids submitted by facsimile (Bid receiving fax (604) 775-7526), use this sheet as the cover sheet. Always ensure your company name, return address, open bidding solicitation number and closing date appear legibly on the outside of your bid submission.

**AVIS AUX FOURNISSEURS:** Pour le retour par la poste ou par messenger, veuillez utiliser UNE des étiquettes d'envoi ci-dessous et apposez-la à l'extérieur de votre enveloppe ou du colis contenant votre offre. Pour les offres soumises par télécopieur (n° du télécopieur pour la réception des offres: (604) 775-7526), utilisez cette page comme bordereau de télécopie. Assurez-vous que le nom de votre compagnie, l'adresse de retour, le numéro de l'invitation ouverte à soumissionner et la date de clôture soient lisibles à l'extérieur de votre offre.

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**Bid Receiving**  
**Public Works & Government Services Canada**  
**2nd floor- 800 BARRARD STREET**  
**VANCOUVER BC V6Z 0B9**

**Solicitation No. : H4134-133092/A A001**

**Solicitation Closes at : 2:00 PM PT**  
**on : January 22 2014**

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**Réception des soumissions**  
**Travaux publics et services gouvernementaux Canada**  
**800 rue Burrard, 2e étage**  
**Vancouver (C.-B) V6Z 0B9**

**N° de l'invitation : H4134-133092/A A001**

**La réception des soumissions prend fin le : 22 janvier 2014**  
**à : 14:00 PT**

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**Annex "A"**  
**(December 27, 2013)**

**REQUIREMENT**

The Drug Analysis Service (DAS) of Health Canada consists of three laboratories across the country. The laboratories located in Toronto, Montreal, and Vancouver analyse a total of 110,000 suspected illicit drug samples and precursor chemicals from police services throughout Canada each year. DAS confirms drug identities and in some cases, purity, of controlled substances seized by various police forces. It is the aim of DAS to provide expeditious analytical services in order to provide sometimes time-sensitive analytical results for evidence in court cases and police investigations as well as to assist the police in enforcing the Controlled Drugs and Substances Act effectively.

DAS analyses controlled substances such as cocaine, heroin, methamphetamine, N-methyl-3, 4-methylenedioxymethamphetamine (MDMA), synthetic cannabinoids, piperazine-like compounds, pharmaceutical oral dosages, steroids, etc. The current method to screen for these compounds involves the use of a Gas Chromatograph Flame Ionization Detector (GC-FID). The samples are prepared by dissolving the solid material (typically powder) in a solvent and injecting this liquid sample on the GC-FID. In addition, DAS incorporates an acid/base clean-up procedure to screen for the presence of weak or negative samples and liquid samples. The acid/base procedure allows for interfering non-controlled compounds to be selectively excluded and the controlled compounds of interest to be concentrated. This clean-up procedure requires the analyst to invest a period of time to prepare the sample to be injected on the instrument. Thus, DAS is seeking an instrument that will reduce the instrument analysis time and eliminate any sample preparation such as an acid/base clean-up procedure.

This instrument will have a direct sample introduction platform involving the absence of a solvent or any sample preparation procedure coupled with a time of flight (TOF - OR EQUIVALENT) mass spectrometer. The TOF - OR EQUIVALENT will be able to provide accurate molecular mass information without the need to have a traditional chromatographic separation technique. The TOF - OR EQUIVALENT needs to be robust and allow for analyses of seized police exhibits at concentration levels several orders of magnitude greater than the typical LC-MS analytical range, mg/ml, without carryover or cross contamination of the sampling device or any component of the Mass Spectrometer.

In addition to the direct sample introduction platform, DAS is considering a system that has the potential of being flexible and allowing for an Ultra High Performance Liquid Chromatograph (uHPLC) to be connected to the TOF - OR EQUIVALENT. This forward looking plan is in anticipation of future needs and the incorporation of potentially flexible systems that will improve the productivity and the quality of work produced by DAS.

**1.0 Scope**

## **1.1 Title**

Direct sample introduction coupled with a time of flight (TOF - OR EQUIVALENT) system for the analysis and screening of controlled substances in the Drug Analysis Service (DAS) laboratory.

## **1.2 Introduction**

DAS requires a direct sample introduction TOF - OR EQUIVALENT system. The complete system will include: direct sample introduction platform including autosampler or equivalent, time of flight mass spectrometer, computer, printer, and software. In addition to all training manuals and operating manuals, on-site training for at least two analysts must be included. A twelve-month warranty on the system must also be included.

## **1.3 Objectives of the Requirement**

DAS requires a complete direct sample introduction time of flight system (TOF - OR EQUIVALENT) for analysis and screening of controlled substances submitted by various police services. A new direct sample introduction TOF - OR EQUIVALENT system is being sought to potentially replace the gas-chromatograph flame ionization detector instrument therefore the system needs to be robust and turn-key in operation allowing for multi-users.

In addition to the direct sample introduction platform, the ability to couple the TOF - OR EQUIVALENT with an uHPLC will be considered as an option for future applications.

## **1.4 Background, Assumptions and Specific Scope of the Requirement**

DAS screens for controlled substances using a gas chromatograph flame ionization detector (GC-FID). In addition, the current practice to analyse liquid samples and weak or negative samples is to perform an acid/base clean-up procedure first. This requires an investment of time and labour by the analyst. A direct sample introduction coupled with a TOF - OR EQUIVALENT system would allow for an increase in sample throughput and greater overall efficiency. An increase in sample throughput is important considering DAS is continually observing an increase in sample submissions by the various enforcement agencies.

## **2.0 Requirements**

### **2.1 Tasks, Activities, Deliverables, and Milestones**

The contractor must supply and install one direct sample introduction TOF - OR EQUIVALENT system in Montreal and a second identical system in Vancouver that meets the specifications that are detailed below. The system must be demonstrated to be in accordance with the manufacturer's performance specifications as well as the mandatory performance specifications of the user. Training on the use and maintenance of the instrument must be completed before final acceptance of the system by the user.

The purchased system must be delivered to the user's site no later than March 28, 2014. The system must be installed and accepted by the user within 4 weeks of delivery. Upon completion of installation, all components of the system must be fully operational and ready for

analysis. Training, including software and instrument use and maintenance and troubleshooting, must be completed within 2 weeks after acceptance of the system. The instrument must include clearly written and comprehensive English-language user manuals for reference. The supplier must continue to provide technical assistance to DAS laboratory staff during regular working hours by phone or email at no added cost to DAS.

## **2.2 Specifications and Standards**

The system must be in accordance with the specifications below. The contractor is responsible for tasks, activities, deliverables, and milestones specified in Section 2.1.

### **A. General Software Requirements:**

- A1. Must include up-to-date operating system with the latest service pack. MANDATORY. The operating system version must be specified by the contractor.
- A2. Must include current Windows-based instrument software programs. MANDATORY
- A3. Must include a fully integrated software suite allowing for flexible use and full control of both the direct sample introduction platform and time of flight mass spectrometer on the same data system. MANDATORY
- A4. Must include a data processing software program. MANDATORY
- A5. Must be multi-tasking allowing the user to acquire and process data simultaneously. MANDATORY
- A6. The contractor must provide free upgrades for all instrument software suites for a minimum two years, plus all application modules as they become commercially available. MANDATORY
- A7. Software must be easy to use and able to perform fast and productive targeted screening, qualitative review of data, library searching. MANDATORY All plug-ins or modules required to perform the above must be included. MANDATORY
- A8. The Data System must be turn-key and walk-up ready. It must allow for easy use between many users (up to 20 users) of varying computer skills and Mass Spectrometry knowledge. MANDATORY Provide description of how multiusers can be queued up for successive analyses with the software – provide sufficient detail and example of a typical sample sequence for both the direct sample introduction device and mass spectrometer.
- A9. The direct sample introduction device should be controllable by the mass spectrometer software and accessed as a part of a method / sequence list table. POINT RATED

R8. Provide a screenshot of the system software page demonstrating the control of the direct sample introduction device via the method / sequence list table.

**B. General Requirements:**

- B1. Must include data system with the following:
- PC computer with necessary accessories to operate the direct sample introduction and time of flight (TOF - OR EQUIVALENT) systems. MANDATORY
  - Minimum 24" LCD monitor. MANDATORY
  - One laser printer (ability to duplex) with a 250 to 500 page tray capacity. MANDATORY
- B2. PC network card requirements:
- PC computer must be able to accept a second network (NIC) card. MANDATORY
  - Two NIC cards must be included. MANDATORY
- B3. Warranty:
- The effective date of the minimum twelve-month warranty period for all non-consumable components will commence on the date of acceptance of the complete system (including all physical features and performance tests). MANDATORY
  - This warranty must cover all parts, freight, labour, travel, lodgings or any associated costs. MANDATORY
- B4. Acceptance criteria for the installation and set-up of the instrument must include satisfactory demonstration of:
- A cocaine sample or standard (provided by DAS laboratory). MANDATORY
  - A heroin sample or standard (provided by DAS laboratory). MANDATORY
  - The contractor must provide all relevant reference standard solutions, except for controlled substances, for use during on-site acceptance testing. MANDATORY
- B5. Spare part kit: Initial consumables, special tools and a recommended spare part kit (one-year supply) must be provided. MANDATORY
- B6. The contractor must provide timely call-response and on-site response to service calls. (MANDATORY)

How quickly a response is provided as well as the cost will be point-rated.  
POINT-RATED R1

**C. Training Requirements:**

- C1. Training must be provided in-house for at least two analysts by a qualified technician. MANDATORY

- C2. Manuals must be provided with the system MANDATORY, including but not limited to:
- operating manuals,
  - maintenance manuals,
  - training manuals.

**D. Direct sample introduction requirements.**

- D1. Must analyse samples automatically without the user being present. The user initiates the sequence to analyse the first sample and the system automatically resumes the analysis of the remaining samples. MANDATORY.

A higher score will be given for the ability to analyse more than two samples automatically. POINT-RATED R2

- D2. Ability to automatically analyse samples in a short time.

A higher score will be given to a system that has the ability to analyse multiple samples in a short time frame. POINT-RATED R3 (Vendor must submit a detailed written response describing the procedure to prepare a series of unknown powder samples and the breakdown of time required to analyse these samples automatically {calibration, equilibration, sample introduction, data collection, etc.}. Provide an analysis time per sample. The response must take into consideration the maximum number of unknown powder samples the instrument can accept).

- D3. Must have the ability to switch between positive and negative ion modes. MANDATORY

- D4. The above mentioned functions must be digitally controlled by the software. MANDATORY

- D5. Direct sample introduction medium (plate, card, mesh, etc.) should be one-time-use (consumable) and not require washing or re-use. MANDATORY. At least 100 consumable sample introduction media (plates, cards, meshes, etc.)- NOT to be confused with enough sample introduction media for 100 samples!, must be included. MANDATORY. Vendor must submit a quote, to be valid for 2 years, the cost per sample of the consumable direct sample introduction product. For example if the direct sample introduction product consists of a strip of 15 sample wells and costs \$1.50 then the cost per sample is \$0.10 POINT- RATED R9.

**E. Time of Flight Mass Spectrometer (TOF - OR EQUIVALENT) requirements.**

- E1. Ability to accept Electrospray Ionization (ESI) and Atmospheric Pressure Chemical Ionization (APCI) platforms in addition to direct sample introduction will be given a higher score. POINT-RATED R4

These systems must be digitally controlled by the software and seamlessly interchangeable. These ESI and APCI platforms are to be included if these functions are available.

- E2. Must have the ability to perform fragmentation of molecular species similar to Collision Induced Disassociation (CID) to differentiate molecules with the same molecular formula. MANDATORY

- E3. Cocaine and scopolamine have the same molecular formula. Vendor must provide a detailed description of the procedure to differentiate the two compounds or compounds that have the same molecular formula. MANDATORY

- E4. Capability to operate in combination with an Ultra High Performance Liquid Chromatograph (uHPLC).

- E5. Mass range measurement must be up to a minimum 6 000 m/z. MANDATORY

- E6. Mass accuracy must be within 5 mmu. MANDATORY

- E7. Must offer automatic calibration with user defined calibration standards. MANDATORY

- E8. Calibration standard material must be included. MANDATORY

- E9. Must allow for data post-processing. MANDATORY

User must be able to transfer data files from one PC to a second PC (if purchased) seamlessly while the system is in operation collecting data. MANDATORY

- E10. Ability to automatically generate and print standard reports. A higher score will be given to a system that is capable of generating and printing a standard report after the analysis of each sample or after the batch of samples has been completed. POINT-RATED R5

- E11. The standard report must include the TOF - OR EQUIVALENT and CID data (if applicable) in addition to compound matches compared to an in-house library or third party library source. MANDATORY

The contractor must provide a hard-copy of a report that demonstrates that the above described report can be generated. MANDATORY

- E12. If the system uses nitrogen, a nitrogen generator must be included. MANDATORY
- E13. If the system is under vacuum pressure then a vacuum pump with a noise enclosure unit must be included. MANDATORY
- E14. Ability to provide isotopic data in addition to exact mass and using the software to search for known molecular formulas in a database. POINT-RATED R6
- E15. Inclusion of electronic spectral libraries (in-house or third party) related to controlled substances, precursors, and drugs of abuse. POINT-RATED R7

E16. The TOF - OR EQUIVALENT must be robust and must allow for analyses of seized police exhibits at concentration levels several orders of magnitude greater than the typical LC-MS analytical range. The direct sample introduction device and mass spectrometer must allow for the direct analysis of powders and solutions in the mg/ml range without carryover or cross contamination of the sampling device or any component of the Mass Spectrometer. MANDATORY. The vendors are to demonstrate this using Caffeine and sucrose in the following forms: 1. Caffeine neat as a powder; 2. Caffeine at 1 mg/ml in Methanol; 3. Caffeine at 2 mg/ml; 4. Table sugar after the caffeine experiment. All samples are to be run consecutive as in the prescribed order above and time stamped for review purposes. All spectra are to be printed out and compiled without any spectral or data manipulation. MANDATORY.

**F. Optional Goods and Services:**

Note: Vendor may list items and their relevant cost and specifications that may become part of this tender. Prices quoted for the following items will be valid after 12 months of the system acceptance date. The vendor can provide more options than the following as deemed to be useful for the user.

- F1. A second PC computer with the appropriate software license and a minimum 24" LCD monitor to process data independently. The second PC computer will be used off-line for post data processing such as library searches, etc.
- F2. Comprehensive electronic spectral libraries of controlled substances, precursors, and drugs of abuse.
- F3. A bar code reader capable of reading 3 of 9 standard 1-dimensional barcodes.
- F4. Ability to incorporate an uHPLC system coupled to the time of flight mass spectrometer. If the software that controls the uHPLC works seamlessly with the

software that controls the **TOF - OR EQUIVALENT** spectrometer, the option to purchase an uHPLC system will be considered.

F5. Optional uHPLC system are to include the following:

F5.1. Quaternary analytical pump:

F5.1.1 Compatible with mobile phases of a broad pH range (at least pH 2-10), including buffers.

F5.1.2 Solvents mixed before reaching the column.

F5.1.3 Capable of ultra-high pressure liquid chromatography (pressures greater than 600 bar) in addition to standard analytical high performance liquid chromatography. Flow precision less than 0.3% RSD.

F5.1.4 The software capable of generating a single standard report which includes UV Spectrum, **TOF - OR EQUIVALENT**, and CID data (if obtained) without customization or without analyst generated macros.

F5.2. Safety

F5.2.1 Fluidic connections monitored by electronic leak detectors.

F5.2.2 The system includes a maximum/minimum pressure shut-off.

F5.2.3 Includes pumping system that monitors pump seal tightness and provides early warnings of leakages.

F5.3. Thermostatted autosampler

F5.3.1 Holds more than one standard 2 mL sample vials.

F5.3.2 Carryover to be 0.02% or less.

F5.3.3 All solvents degassed by a built-in degasser which is controlled by the pump.

F5.3.4 Have a wide range of injection volumes using full loop or partial loop fill (from 1 µL up to 200 µL); appropriate equipment included.

F5.3.5 Provide programmable needle washes in between sample injections.

F5.4. Thermostatted column compartment

F5.4.1 Compatible with columns ranging from narrow bore (2.1 mm ID) to standard bore (4.6 mm ID).

F5.4.2 Maintain stable temperatures of at least 50 °C.

F5.5. Solvent rack and bottles to be included.

F5.6. Diode array detector

F5.6.1 Connect serially to the mass spectrometer.

F5.6.2 Spectral range of at least 190 to 800 nm.

F5.6.3 Acquire at least 5 wavelengths simultaneously.

F5.6.4 Wavelength accuracy be at least +/- 1 nm.

F5.6.5 Light sources include a deuterium lamp and a tungsten lamp.

F5.6.6 Include appropriate flow cell options.

F5.6.7 Include electronic temperature control.

F5.7. Include spectral software for analysis of UV data.

F6. Extended warranty. Option to purchase coverage for an extra one year and two years.

**ANNEX C –Point Rated Criteria (December 27, 2013)**

|  |                        |                                |             |              |
|--|------------------------|--------------------------------|-------------|--------------|
| <p><b>Bidders:</b> Write beside each of the criteria the relevant page number(s) from your proposal which addresses the requirement identified in the criteria. Please provide a written description of how each requirement is met. Score column reserved for the evaluation team.</p> <p>Bids that fail to meet the mandatory requirements will not be rated and the bid will not be considered.</p>   |                        |                                |             |              |
| <b>Criteria</b>  |                        |                                | <b>Pg #</b> | <b>Score</b> |
| <b>General Requirements</b>  | <b>Max.: 20 points</b> | <b>Min. Required: 6 points</b> |             | <b>/20</b>   |
| <p>R1. Timely response to service calls (Section B6)<br/>                     Please provide a detailed written response describing your process for providing call back service (including time for technician to call back) and on-site service and the expected timelines for responses to on-site service requests. Please provide two references that can verify the call back response times. Please include the costs of on-site response, including travel and at least 8 hours of technician service.</p> <p>A minimum of 6 points is required for the bid to pass this section.</p>  |                        |                                |             |              |
| <b>Direct Sample Introduction Requirements</b>   | <b>Max.: 20 points</b> |                                |             | <b>/20</b>   |
| <p>R2. Ability to analyse more than two samples automatically (Section D1).<br/>                     Ability to analyse samples (solid and liquid) automatically without the user being present. The user initiates the sequence to analyse the first sample and the system automatically resumes the analysis of the remaining samples.<br/>                     MANDATORY. A higher score will be given for the ability to analyse more than one sample automatically.</p> <p>1 point between 3-5 samples<br/>                     2 points between 6-8 samples<br/>                     4 points between 9-11 samples<br/>                     10 points between 12-15 samples<br/>                     15 points more than 16-20 samples<br/>                     20 points more than 20 samples</p> |                        |                                |             |              |
| <b>Time of Flight (TOF) Requirements</b>   | <b>Max.: 85 points</b> |                                |             | <b>/85</b>   |
| <p>R3. Ability to analyse samples in a short time (Section D2).<br/>                     A higher score will be given to a system that has the ability to analyse multiple samples in a short time frame. Vendor must submit a detailed written response describing the procedure to prepare a series of unknown powder samples and the breakdown of time required to analyse these samples automatically {calibration, equilibration, sample introduction, data collection, etc.}. Provide an analysis time per sample. The response must take into consideration the maximum number of unknown powder samples the instrument can accept).</p> <p>Analysis time per sample:<br/>                     15 points 5 seconds or less</p>  |                        |                                |             | <b>/15</b>   |

**Bidders:** Write beside each of the criteria the relevant page number(s) from your proposal which addresses the requirement identified in the criteria. Please provide a written description of how each requirement is met. Score column reserved for the evaluation team.

Bids that fail to meet the mandatory requirements will not be rated and the bid will not be considered.

| <b>Criteria</b>  | <b>Pg #</b> | <b>Score</b> |
|--|-------------|--------------|
| 12 points between 6-10 seconds<br>10 points between 11-15 seconds<br>8 points between 16-20 seconds<br>2 points between 21-30 seconds<br>1 point > 30 seconds  |             |              |
| R4. Ability to accept Electrospray Ionization (ESI) and Atmospheric Pressure Chemical Ionization (APCI) platforms in addition to direct sample introduction will be given a higher score (Section E1).<br>A higher score will be given to a TOF mass spectrometer that can incorporate ESI and/or APCI platforms<br><br>5 points for ESI only; 5 points for APCI only; 10 points for both ESI and APCI |             | <b>/10</b>   |
| R5. Ability to automatically generate and print standard reports (Section E10).<br>A higher score will be given to a system that is capable of generating and printing a standard report after the analysis of each sample or after the batch of samples has been completed.<br><br>20 points if system can automatically generate and print standard reports.   |             | <b>/20</b>   |
| R6. Ability to provide isotopic data in addition to exact mass and using the software to search for known molecular formulas in a database (Section E14).  |             | <b>/10</b>   |
| R7. Electronic spectral libraries (Section E15).<br>Inclusion of electronic spectral libraries (in-house or third party) related to controlled substances, precursors, and drugs of abuse.   |             | <b>/10</b>   |
| R8. If the screenshot demonstrates that the device is controlled by the software 10 pts, if the screenshot depicts a secondary window with the direct sample introduction device controls or no screenshot, 0 pts. (Section A9)  |             | <b>/10</b>   |
| R9. Cost per sample of the consumable direct sample introduction product (Section D5)<br>10 points if less than or equal to \$0.15 per sample.<br>7 points if between \$0.25 and \$0.15 per sample.<br>2 points if between \$0.50 and \$0.26 per sample.<br>0 points if greater than \$0.51 per sample.  |             | <b>/10</b>   |

R.1 Call Response (the time it takes to get a call back from service technician once a request by customer has been made):

- 8 points if within 1 hour
- 6 points if within 2 hours
- 4 points if within 4 hours
- 2 points if within 1 day
- 0 points if greater than 1 day

On-Site Service Requests:

Time for a technician to arrive on-site:

- 8 points if within 1 day
- 6 points if up to 2 days
- 4 points if up to 4 days
- 2 points if up to 6 days
- 0 points if more than 6 days

Cost for on-site service, response within 4 days (including travel and at least 8 hours of technician labour on-site):

- 4 points if less than \$ 2500
- 1 point if \$ 2500 or more

| Sec | Description   | Comply |    | Comments / References<br>page # |
|-----|---|--------|----|---------------------------------|
|     |   | Yes    | No |                                 |
| 2.0 | <b>Requirements</b>   |        |    |                                 |
| 2.1 | <p><b>Tasks, Activities, Deliverables, and Milestones</b><br/>                     The contractor must supply and install one direct sample introduction TOF – or “Equivalent” system in Montreal and a second identical system in Vancouver that meets the specifications that are detailed below. The system must be demonstrated to be in accordance with the manufacturer’s performance specifications as well as the mandatory performance specifications of the user. Training on the use and maintenance of the instrument must be completed before final acceptance of the system by the user.</p> <p>The purchased system must be delivered to the user's site no later than March 28, 2014. The system must be installed and accepted by the user within 4 weeks of delivery. Upon completion of installation, all components of the system must be fully operational and ready for analysis. Training, including software and instrument use and maintenance and troubleshooting, must be completed within 2 weeks after acceptance of the system. The instrument must include clearly written and comprehensive English-language user manuals for reference. The supplier must continue to provide technical assistance to DAS laboratory staff during regular working hours by phone or email at no added cost to DAS.</p> |        |    |                                 |
| 2.2 | <p><b>Specifications and Standards</b><br/>                     The system must be in accordance with the specifications below. The contractor is responsible for tasks, activities, deliverables, and milestones specified in Section 2.1.</p>   |        |    |                                 |
| A   | <b>General Software Requirements:</b>   |        |    |                                 |
| A1  | Must include up-to-date operating system with the latest service pack. MANDATORY.<br><i>The operating system version must be specified by the contractor.</i>   |        |    |                                 |
| A2  | Must include current Windows-based instrument software programs. MANDATORY  |        |    |                                 |
| A3  | Must include a fully integrated software suite allowing for flexible use and full control of both the direct sample introduction platform and time of flight mass spectrometer on the same data system. MANDATORY   |        |    |                                 |
| A4  | Must include a data processing software program. MANDATORY  |        |    |                                 |
| A5  | Must be multi-tasking allowing the user to acquire and process data simultaneously. MANDATORY   |        |    |                                 |

| Sec      | Description  | Comply |    | Comments / References<br>page # |
|----------|--|--------|----|---------------------------------|
|          |  | Yes    | No |                                 |
| A6       | The contractor must provide free upgrades for all instrument software suites for a minimum two years, plus all application modules as they become commercially available. MANDATORY  |        |    |                                 |
| A7       | Software must be easy to use and able to perform fast and productive targeted screening, qualitative review of data, library searching. MANDATORY All plug-ins or modules required to perform the above must be included. MANDATORY  |        |    |                                 |
| A8       | The Data System must be turn-key and walk-up ready. It must allow for easy use between many users (up to 20 users) of varying computer skills and Mass Spectrometry knowledge. MANDATORY Provide description of how multiusers can be queued up for successive analyses with the software – provide sufficient detail and example of a typical sample sequence for both the direct sample introduction device and mass spectrometer. |        |    |                                 |
| A9       | The direct sample introduction device should be controllable by the mass spectrometer software and accessed as a part of a method / sequence list table. POINT RATED R8. Provide a screenshot of the system software page demonstrating the control of the direct sample introduction device via the method / sequence list table.   |        |    |                                 |
| <b>B</b> | <b>General Requirements:</b>   |        |    |                                 |
| B1       | Must include data system with the following:<br>- PC computer with necessary accessories to operate the direct sample introduction and time of flight (TOF or equivalent) systems. MANDATORY<br>- Minimum 24" LCD monitor. MANDATORY<br>- One laser printer (ability to duplex) with a 250 to 500 page tray capacity. MANDATORY  |        |    |                                 |
| B2       | PC network card requirements:<br>- PC computer must be able to accept a second network (NIC) card. MANDATORY<br>- Two NIC cards must be included. MANDATORY  |        |    |                                 |
| B3       | Warranty:<br>- The effective date of the minimum twelve-month warranty period for all non-consumable components will commence on the date of acceptance of the complete system (including all physical features and performance tests). MANDATORY<br>- This warranty must cover all parts, freight, labour, travel, lodgings or any associated costs. MANDATORY  |        |    |                                 |
| B4       | Acceptance criteria for the installation and set-up of the instrument must include satisfactory demonstration  |        |    |                                 |

| Sec      | Description  | Comply |    | Comments / References<br>page # |
|----------|--|--------|----|---------------------------------|
|          |  | Yes    | No |                                 |
|          | of:<br>- A cocaine sample or standard (provided by DAS laboratory). MANDATORY<br>- A heroin sample or standard (provided by DAS laboratory). MANDATORY<br>The contractor must provide all relevant reference standard solutions, except for controlled substances, for use during on-site acceptance testing. MANDATORY  |        |    |                                 |
| B5       | Spare part kit: Initial consumables, special tools and a recommended spare part kit (one-year supply) must be provided. MANDATORY  |        |    |                                 |
| B6       | The contractor must provide timely call-response and on-site response to service calls. (MANDATORY)<br><br>How quickly a response is provided as well as the cost will be point-rated. POINT-RATED R1  |        |    |                                 |
| <b>C</b> | <b>Training Requirements:</b>  |        |    |                                 |
| C1       | Training must be provided in-house for at least two analysts by a qualified technician. MANDATORY  |        |    |                                 |
| C2       | Manuals must be provided with the system MANDATORY, including but not limited to:<br>- operating manuals,<br>- maintenance manuals,<br>- training manuals.   |        |    |                                 |
| <b>D</b> | <b>Direct sample introduction requirements.</b>  |        |    |                                 |
| D1       | Must analyse samples automatically without the user being present. The user initiates the sequence to analyse the first sample and the system automatically resumes the analysis of the remaining samples. MANDATORY.<br><br>A higher score will be given for the ability to analyse more than two samples automatically. POINT-RATED R2   |        |    |                                 |
| D2       | Ability to automatically analyse samples in a short time.<br><br>A higher score will be given to a system that has the ability to analyse multiple samples in a short time frame. POINT-RATED R3 (Vendor must submit a detailed written response describing the procedure to prepare a series of unknown powder samples and the breakdown of time required to analyse these samples automatically {calibration, equilibration, sample introduction, data collection, etc.}. Provide an analysis time per sample. The response must take into consideration the maximum number of unknown |        |    |                                 |

| Sec | Description   | Comply |    | Comments / References<br>page # |
|-----|---|--------|----|---------------------------------|
|     |   | Yes    | No |                                 |
|     | powder samples the instrument can accept).  |        |    |                                 |
| D3  | Must have the ability to switch between positive and negative ion modes. MANDATORY  |        |    |                                 |
| D4  | The above mentioned functions must be digitally controlled by the software. MANDATORY   |        |    |                                 |
| D5  | Direct sample introduction medium (plate, card, mesh, etc.) should be one-time-use (consumable) and not require washing or re-use. MANDATORY. At least 100 consumable sample introduction media (plates, cards, meshes, etc.)- NOT to be confused with enough sample introduction media for 100 samples!, must be included. MANDATORY. Vendor must submit a quote, to be valid for 2 years, the cost per sample of the consumable direct sample introduction product. For example if the direct sample introduction product consists of a strip of 15 sample wells and costs \$1.50 then the cost per sample is \$0.10 POINT- RATED R9. |        |    |                                 |
| E   | <b>Time of Flight Mass Spectrometer (TOF or Equivalent) requirements.</b>   |        |    |                                 |
| E1  | Ability to accept Electrospray Ionization (ESI) and Atmospheric Pressure Chemical Ionization (APCI) platforms in addition to direct sample introduction will be given a higher score. POINT-RATED R4<br><br>These systems must be digitally controlled by the software and seamlessly interchangeable. These ESI and APCI platforms are to be included if these functions are available.  |        |    |                                 |
| E2  | Must have the ability to perform fragmentation of molecular species similar to Collision Induced Disassociation (CID) to differentiate molecules with the same molecular formula. MANDATORY   |        |    |                                 |
| E3  | Cocaine and scopolamine have the same molecular formula. Vendor must provide a detailed description of the procedure to differentiate the two compounds or compounds that have the same molecular formula. MANDATORY  |        |    |                                 |
| E4  | Capability to operate in combination with an Ultra High Performance Liquid Chromatograph (uHPLC).   |        |    |                                 |
| E5  | Mass range measurement must be up to a minimum 6000 m/z. MANDATORY  |        |    |                                 |
| E6  | Mass accuracy must be within 5 mmu. MANDATORY   |        |    |                                 |
| E7  | Must offer automatic calibration with user defined calibration standards. MANDATORY   |        |    |                                 |
| E8  | Calibration standard material must be included. MANDATORY   |        |    |                                 |
| E9  | Must allow for data post-processing. MANDATORY  |        |    |                                 |

| Sec | Description  | Comply |    | Comments / References<br>page # |
|-----|--|--------|----|---------------------------------|
|     |  | Yes    | No |                                 |
|     | User must be able to transfer data files from one PC to a second PC (if purchased) seamlessly while the system is in operation collecting data. MANDATORY  |        |    |                                 |
| E10 | Ability to automatically generate and print standard reports. A higher score will be given to a system that is capable of generating and printing a standard report after the analysis of each sample or after the batch of samples has been completed. POINT-RATED R5   |        |    |                                 |
| E11 | The standard report must include the TOF – <b>OR Equivalent</b> and CID data (if applicable) in addition to compound matches compared to an in-house library or third party library source. MANDATORY<br>The contractor must provide a hard-copy of a report that demonstrates that the above described report can be generated. MANDATORY   |        |    |                                 |
| E12 | If the system uses nitrogen, a nitrogen generator must be included. MANDATORY  |        |    |                                 |
| E13 | If the system is under vacuum pressure then a vacuum pump with a noise enclosure unit must be included. MANDATORY  |        |    |                                 |
| E14 | Ability to provide isotopic data in addition to exact mass and using the software to search for known molecular formulas in a database. POINT-RATED R6   |        |    |                                 |
| E15 | Inclusion of electronic spectral libraries (in-house or third party) related to controlled substances, precursors, and drugs of abuse. POINT-RATED R7  |        |    |                                 |
| E16 | <b>The TOF - OR equivalent must be robust and must allow for analyses of seized police exhibits at concentration levels several orders of magnitude greater than the typical LC-MS analytical range. The direct sample introduction device and mass spectrometer must allow for the direct analysis of powders and solutions in the mg/ml range without carryover or cross contamination of the sampling device or any component of the Mass Spectrometer. MANDATORY. The vendors are to demonstrate this using Caffeine and sucrose in the following forms: 1. Caffeine neat as a powder; 2. Caffeine at 1 mg/ml in Methanol; 3. Caffeine at 2 mg/ml; 4. Table sugar after the caffeine experiment. All samples are to be run consecutive as in the prescribed order above and time stamped for review purposes. All spectra are to be printed out and compiled without any spectral or data manipulation. MANDATORY.</b> |        |    |                                 |