

**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:**

**Bid Receiving
PWGSC
33 City Centre Drive
Suite 480C
Mississauga
Ontario
L5B 2N5
Bid Fax: (905) 615-2095**

**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

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Title - Sujet GC Mass Spectrometer | |
| Solicitation No. - N° de l'invitation KW405-140487/A | Date 2014-11-27 |
| Client Reference No. - N° de référence du client KW405-140487 | |
| GETS Reference No. - N° de référence de SEAG PW-\$TOR-009-6704 | |
| File No. - N° de dossier TOR-4-37094 (009) | CCC No./N° CCC - FMS No./N° VME |
| Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-01-07 | Time Zone Fuseau horaire Eastern Standard Time EST |
| 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: Boulet, Kieta | Buyer Id - Id de l'acheteur tor009 |
| Telephone No. - N° de téléphone (905) 615-2078 () | FAX No. - N° de FAX (905) 615-2060 |
| Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF THE ENVIRONMENT 867 Lakeshore Road Burlington Ontario L7R4A6 Canada | |

Instructions: See Herein

Instructions: Voir aux présentes

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
Ontario Region
33 City Centre Drive
Suite 480
Mississauga
Ontario
L5B 2N5

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Delivery Required - Livraison exigée 2015-03-31 | 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 |

Solicitation No. - N° de l'invitation

KW405-140487/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur

tor009

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

KW405-140487

File No. - N° du dossier

TOR-4-37094

CCC No./N° CCC - FMS No/ N° VME

SEE ATTACHED

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PART 1 - GENERAL INFORMATION

1.1 Requirement

The requirement is detailed under Article 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.

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>) 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 (2014-09-25) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days
Insert: 90 days

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.

Due to the nature of the bid solicitation, bids transmitted by facsimile to PWGSC will not be accepted.

2.3 Enquiries - Bid Solicitation

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

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

2.4 Applicable Laws

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

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.

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 (3 hard copies)

Section II: Financial Bid (1 hard copy)

Section III: Certifications (1 hard copy)

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.

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

4.1.1.1 Mandatory Technical Criteria

The proposed Gas Chromatograph Mass Spectrometer must meet each and every mandatory technical criteria.

| Item no. | Criteria | Page in your proposal where information can be found |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| M1. | The bidder must demonstrate they have a service history (minimum of 5 years) in the field of gas chromatography/mass spectrometry (GC/MSD) in Canada | |
| M2. | <p>The Bidder must demonstrate, that their proposed systems meet the mandatory requirements and technical specifications detailed at Annex A.</p> <p>All bullets from 2. Mandatory General Requirements and 3. Mandatory Detailed Specifications/Requirement in Annex A-Requirement must be demonstrated in the bid submission.</p> <p>If any additional components, peripherals or supplies are necessary to meet all specifications and to operate the instrument on arrival at Environment Canada's site, these must be listed in the Bidder's response and must be included in the Price</p> | |
| M3. | The Bidder must submit test results, with their bid, achieved through analysis of standard and matrix mixtures supplied by Environment Canada, Burlington, ON. Contact Kieta Boulet at kieta.boulet@pwgsc-tpsgc.gc.ca to obtain samples and further details. The samples will consist of volatiles in methanol that will be diluted in water by the bidder. Standard solutions will be provided. The results will be used in the point rated portion of the evaluation. Performance must meet the minimum pass requirements outlined. | |
| M4. | Experimental conditions used by the Bidder (autosampler and purge and trap concentrator, column, oven temperature program and MS conditions etc.) and chromatograms must be included in the results report submitted in the bid | |

| | | |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| M5. | GC/MSD instrument reference check: The Bidder must provide the name, phone number and instrument configuration of between three and five GC/MSD users in Canada for whom the Bidder has provided a GC/MSD system manufactured by the same manufacturer as in the bid. (references must have been using the system for at least one year). Environment Canada will select three and contact them as reference checks. References will be further evaluated in the point rated section | |
| M6. | Concentrator and autosampler reference check: The Bidder must provide the name, phone number and instrument configuration of between three and five purge and trap concentrator and autosampler users in Canada who are using the proposed purge and trap system (references must have been using the system for at least one year). Environment Canada will select three and contact them as reference checks. References will be further evaluated in the point-rated sections. Systems that are not connected to the Bidders GC/MSD's will have 10% deducted from their points | |
| M7. | Instrument Service Reference Check: The bidder must provide the name and phone number of between three and five users of their instruments located within 200 km of CCIW (references must have been using the systems for at least a year and have had at least one service call). Environment Canada will select three and contact them as an instrument reference service check. References will be further evaluated in the point-rated sections. Preference will be given to the type of instruments they are having serviced i.e. GC/MSD/purge and trap concentrator/autosampler will get 100% score, and GC/MSD only instruments will get 90%, and non GC/MSD will get 50% | |

Bidders not meeting the mandatory criteria will be considered non-responsive and will not be evaluated further.

4.1.1.2 Point Rated Technical Criteria

Total points (1366 points)

-360 points performance samples evaluation
-206 points software evaluation
-150 points Service
-80 points Warranty
-570 points references

1. Performance Samples Evaluation (360 points)

The Bidder must demonstrate each of the following capabilities (A & B) by providing a written report on the samples provided by Environment Canada. Instructions will be provided with the samples. Bidder must receive a score of **252 points out of a possible 360 points or 70%** on the Performance Samples Evaluation in order to proceed to step 2 (software evaluation) of the evaluation. Points will be awarded for each criterion in this section on a pro-rated basis using the following formulae:

Point Allocation: (Bidder Result/Best Result)*(Maximum Possible Points)

Note that wherever “signal to noise ratio” or “signal:noise” is referenced in the subsequent components of this benchmark evaluation, the definition to be used is “RMS signal-to-noise” which is defined as the signal that is the height above the baseline of the maximum chromatographic peak corresponding to the analyte of interest; baseline noise is defined as the root mean square (standard deviation) of the measured baseline **both 30 seconds before and 30 seconds after** the chromatographic signal of the analyte of interest.

No smoothing or noise reduction algorithms can be employed to manipulate RMS signal to noise ratios.

A) Conventional Volatiles (vinyl chloride (VC), tetrachloroethene (PCE), 1,4-dioxane, 1,1,2,2-tetrachloroethane (TeCA)) (280 points)

Instrument Conditions:

- All components GC, MSD, purge and trap concentrator and purge and trap autosampler must be the same model as those being offered in the tender
- Sample volume 5 ml
- Internal standard added by autosampler
- Purge temperature 60 deg C
- K trap
- DB 624 or equivalent column (0.25 mm diameter or smaller and 60 m length suggested)
- Full scan mode m/z 35 to 300
- All other parameters are at the Contractors discretion but must be reported

Sensitivity will be assessed in Standard Solutions (120 points)

In EI+, sensitivity will be assessed for a mixed standard solution of Volatiles. Stock standards of the solutions in methanol will be provided and details of the compounds in the standard mix will be provided with each solution.

A solution in water of the compounds VC, PCE, and TeCA at 2 µg/L each and 20 µg/L of 1,4-dioxane will be prepared by the Bidder from the standards provided by Environment Canada.

Laboratory water blanks must be included by each Bidder to assess any laboratory contributions which may arise.

The following sequence will be performed:

Water blank

Water blank

2 µg/L VC, PCE, TeCA, 20 µg/L 1,4-dioxane in water

2 µg/L VC, PCE, TeCA, 20 µg/L 1,4-dioxane in water

2 µg/L VC, PCE, TeCA, 20 µg/L 1,4-dioxane in water

2 µg/L VC, PCE, TeCA, 20 µg/L 1,4-dioxane in water

2 µg/L VC, PCE, TeCA, 20 µg/L 1,4-dioxane in water Water blank

Bidders must provide the following:

- TIC chromatogram of all injections with y-axis in counts, x-axis in retention time (min).
- Provide an integrated extracted ion chromatogram (EIC) of the following ions (62 for vinyl chloride, 88 for 1,4-Dioxane, 166 for tetrachloroethene and 83 for 1,1,2,2-tetrachloroethane) for all injections including the blanks, areas must be shown.
- Report average S/N and RSD for each ion (Non blank injections only). **(20 points/ion for S/N and 10 points/ion for RSD)**
- Chromatograms are to be provided without any extra processing (i.e. **no smoothing or noise reduction**) and date/time stamps.
- Bidders must also provide full disclosure of all method parameters for all components of the system.

Retention time repeatability will be assessed and pro-rated in Standard Solutions (40 points)

Using the data (Non blank injections only) in the previous section report the retention time RSD for each ion.

Linear dynamic range will be assessed and pro-rated (40 points)

Using the standard solutions provided run levels from the estimated detection limit to the limit of linearity. Regression must be linear, forced through zero and non-weighted. Report the R^2 of the line. R^2 must be > 0.98 and points will be awarded on order of magnitude in linear range. The Bidder may use an internal standard to correct for run to run variability – stock internal standard will be provided by Environment Canada. (points pro-rated)

Carry over will be assessed and pro-rated (40 points)

Using the standard solutions provided make a 200 µg/L solution in water and run under the same conditions as previous injections. Run a water blank immediately afterwards and report the EIC of the 4 ions as well as area and concentration for each ion in the blank.

Produced spectra matches with library spectra will be assessed and pro-rated: 40 points)

Using first 2 µg/L VC, PCE, TeCA, 20 µg/L 1,4-dioxane in water injection report the following for each compound:

- Spectrum (baseline subtraction can be performed)
- Library spectrum and match quality

B) Unconventional Volatiles (methanol) (80 points)

Instrument Conditions:

- All components GC, MSD, purge and trap concentrator and purge and trap autosampler must be the same model as those being offered in the tender.
- Sample volume 5 ml
- **NO** Internal standard added by autosampler
- Purge temperature 60 deg C
- K trap
- DB 624 or equivalent column (0.25 mm diameter or smaller and 60 m length suggested)
- Full scan mode m/z 29 to 300
- All other parameters are at the Bidder's discretion but must be reported

Sensitivity will be assessed in Standard Solutions (50 points)

In EI+, sensitivity will be assessed with a low standard solution of methanol. Methanol will be provided that the Bidder will use to make standards in water.

A 1 mg/L solution in water of the standards will be prepared by the Bidder from the standards provided by Environment Canada.

The following sequence will be performed:

Water blank
Water blank
1 mg/L standard
1 mg/L standard
1 mg/L standard
1 mg/L standard
1 mg/L standard
Water blank

Bidders must provide the following:

- TIC chromatogram of all injections with y-axis in counts, x-axis in retention time (min).
- Provide an integrated extracted ion chromatogram (EIC) of the 31 ion for both 1 mg/L standards and the blanks, areas must be shown.
- Report average S/N and RSD for (1 mg/L standard injections only). (**30 points for S/N and 20 points for RSD**)
- Chromatograms are to be provided without any extra processing (i.e. **no smoothing or noise reduction**) and date/time stamps.
- Bidders must also provide full disclosure of all method parameters for all components of the system.

Retention time repeatability will be assessed and pro-rated in Standard Solutions (10 points)

Using the 1 mg/L standard data in the previous section report the RSD of the retention time for the EIC.

Linear dynamic range will be assessed and pro-rated:(10 points)

Using the standard solutions provided run standards from the estimated detection limit to the limit of linearity. Regression must be linear, forced through zero and non-weighted. Report the R^2 of the line. R^2 must be > 0.98 and points will be awarded on order of magnitude in linear range.

Carry over will be assessed and pro-rated:(10 points)

Using the standard solutions provided make a 200 mg/L solution in water and run with the same conditions as standards. Run a water blank immediately afterwards and report the EIC of the 31 ion as well as area and concentration in the blank.

2. Software Evaluation (206 points)

1. Compatibility with Existing Data Files (50 points)

Environment Canada will provide the Bidder with a set of data files for standards that were collected on Environment Canada's existing system. The Bidder will process the samples with their software and report the following:

- TIC for one file (10 points)
- Spectrum for any compound in the TIC for any file (10 points)
- Library match for any compound in the TIC for any file (20 points)
- Standard curve for any compound (10 points)

2. Compatibility with LIMS system (50 points)

The Bidder will supply Environment Canada with the data files from the performance evaluation samples in either or all of the following formats .txt, .csv or excel file types . Environment Canada will evaluate the readability of these files by the NLIMS ELEMENT software data processing system. If easily read 50 points, if read but information missing 25 points, if not read 0 points.

WebEx Evaluation (106 points)

During a WebEx virtual conference between EC personnel and each Bidder, the software used to control GC/MSD components of the proposed systems will be evaluated as follows:

1. Method Development (45 points)

1.1. Instrument Tuning (20 points)

- real time display, choice of automated or manual (15 points maximum: real time display 5 points, automated tuning 5 points, manual tuning 5 points)
- general ease of use of automatic tuning (3 steps or less 5 points, greater 3 steps 0 points)

1.2. GC/MSD method creation and general ease of use (25 points)

- GC and MSD parameters easily accessible from a main screen (< 3 steps to change a parameter 10 points, 3 to 4 steps 5 points, >4 steps 0 points)
- Can do off-line GC/MSD method creation (yes 5 points, no 0 points)
- A wizard that leads you through all modifiable parts of the GC/MSD method (yes 5 points, no 0 points)
- Can a sequence run more than one method (yes 5 points, no 0 points, 5 points if < 3 steps)

2. Data Processing (46 points)

2.1. Qualitative Capabilities (20 points)

- Overlay of TIC's with full scan data and SIM data (yes 5 points, no 0 points), ease of operation 4 or less steps 5 points, > 4 steps 0 points)
- Library match of full scan spectrum within main software (yes 5 points, no 0 points), ease of operation (<4 or less steps 5 points, > 4 steps 0 points)

2.2. Quantitative Capabilities (26 points)

- Ability of software to calculate LOD, LOQ, S/N (2 points for each –maximum 6 points)
- Calibration table setup – options for internal/external calibrations and total calculations (5 points for internal calibrations and 5 points for total calculations)
- Number of integration algorithms (2 points for each –maximum 10 points)

3. Reporting (15 points)

- Ease and intuitiveness of exporting or copying and pasting data/charts/ curves/ chromatograms/ tables to other software packages (MS Excel/Powerpoint/Word) 5 or less steps 5 points
- Ease of preparing and designing custom reports 5 or less steps 5 points
- Are instrument operation/monitoring/troubleshooting-error reporting logged? (yes 5 points)

3. Service (150 points)

Number of qualified service engineers with at least one year of service experience with the proposed system within a 200 km of Burlington ON. (150 points – 75 points/engineer)

4. Warranty (80 points)

Additional extended warranty that is as complete as the first year of warranty to be included with the proposal for the system. (20 points/year over the first year to a maximum of 80 points)

5. Reference Evaluations (570 points)

A) GC/MSD Instrument reference check: (285 points)

Three of the references provided by the Bidder as per mandatory criteria M.5 will be contacted. Bidders must obtain the mandatory pass mark of 75% or greater in order to be deemed compliant (214/285). A reference will receive 0 points if the contact number(s) provided is (are) invalid or if the reference and alternate contact cannot be reached after 3 calls each on separate days.

References will be asked the following questions:

Installation (55 points)

- 1) Was the instrument delivered on time? (yes 10 points, < 4 weeks late 5 points, > 4 weeks late 0 points)
- 2) Was service engineer available to install the instrument promptly after delivery? (< 4 weeks after delivery 5 points, >4 weeks after delivery 0 points)
- 3) Was the training provided at installation adequate? (complete 10 points, just enough to get started 5 points, incomplete 0 points)
- 4) Were there any missing components at installation? (no 10 points, yes minor components that were eventually delivered and didn't slow down the installation 5 points, yes major components that impeded the installation and minor components that were never received 0 points)
- 5) Were the specifications for sensitivity met within a reasonable amount of time after installation of the instrument? (if met within 2 weeks 20 points, minus 5 points for each additional week)

Operation (230 points)

- 1) Did it work as expected? (yes 10 points, no 0 points, qualified yes 5 points)
- 2) How much down-time has the instrument experienced, outside of that required for routine maintenance purposes, since installation? (<5%, 50 points, 5-10%, 40 points, 10-20%, 30 points, 20-30%, 10 points, > 30% no points).
- 3) Is the system sufficiently flexible to allow some creativity in setting up non-routine analyses? (yes 10 points, somewhat 5 points, no 0 points)
- 4) Is more than average routine maintenance required to keep the system performing well? (no 10 points, yes 0 points)
- 5) Is routine maintenance relatively easy to perform? (very easy 20 points, average 10 points, difficult 0 points)
- 6) Overall, does the instrument perform to a standard deemed satisfactory by the primary users? (yes 50 points, 10 points deducted for each issue)
- 7) Does the sensitivity of the instrument in general compare with the manufacturer's specifications? (yes 20 points, qualified yes 10 points, no 0 points)
- 8) Does the instrument usually pass a tune easily? (always 20 points, usually 15 points, no 0 points)
- 9) Are there any problems encountered with communication and control between the MSD, GC, autosampler and operating software? (rarely 20 points, sometimes 10 points, often 0 points)
- 10) Is the source difficult to clean? easy, 10 points, average 5 points, difficult 0 points
- 11) How much time would you say is necessary to dismantle, clean and reassemble the source (2 hours or less 10 points, half a day 5 points, greater than half a day 0 points)

B) Concentrator and autosampler reference check: (150 points)

Three of the references provided by the Bidder as per mandatory criteria M.6 will be contacted. Systems that are not connected to the Bidder's GC/MSD's will have 10% deducted from their points. Bidders must obtain the mandatory pass mark of 70% or greater in order to be deemed compliant (105/150)

A reference will receive 0 points if the contact number(s) provided is (are) invalid or if the reference and alternate contact cannot be reached after 3 calls each on separate days.

References will be asked the following questions:

A reference will receive 0 points if the contact number(s) provided is (are) invalid or if the reference and alternate contact cannot be reached after 3 calls each on separate days.

References will be asked the following questions:

Operation (150 points)

- 1) Did it work as expected? (yes 10 points, no 0 points, qualified yes 5 points)
- 2) How much down-time has the instrument experienced, outside of that required for routine maintenance purposes, since installation? (<5%, 50 points, 5-10%, 40 points, 10-20%, 30 points, 20-30%, 10 points, > 30% no points).
- 3) Is the system sufficiently flexible to allow some creativity in setting up non-routine analyses? (yes 10 points, somewhat 5 points, no 0 points)
- 4) Is more than average routine maintenance required to keep the system performing well? (no 10 points, yes 0 points)
- 5) Is routine maintenance relatively easy to perform? (very easy 20 points, average 10 points, difficult 0 points)
- 6) Overall, does the instrument perform to a standard deemed satisfactory by the primary users? (yes 50 points, 10 points deducted for each issue)

C) Instrument service record check: (135 points)

Three of the references provided by the Bidder as per mandatory criteria M.7 will be contacted. Preference will be given to the type of instruments they are servicing i.e. GC/MSD/purge and trap concentrator/autosampler will get 100% score, and GC/ MSD only instruments will get 90%, and non GC/MSD will get 50%. Bidders must obtain the mandatory pass mark of 70% or greater in order to be deemed compliant (95/135)

A reference will receive 0 points if the contact number(s) provided is (are) invalid or if the reference and alternate contact cannot be reached after 3 calls each on separate days.

References will be asked the following questions:

- 1) What has been the response time for telephone assistance? (immediate 10 points, <2 hours 7 points, < 1 day 5 points, >1 day 0 points)
- 2) What has been the response time for on-site service? (next day or better 30 points, <2 days 20 points, < 5 days 10 points, >5 day 0 points)
- 3) Was the service engineer or technician knowledgeable and able to diagnose and rectify the issue for which they were called during the initial visit? (yes 40 points), If the issue was not rectified, did the service engineer or technician have a good idea of how to proceed in order to resolve the issue (yes 20 points no 0 points)
- 4) How long does it usually take the service engineer to fix the problem? (fixed during initial visit 40 points, fixed by the next day 30 points, fixed within 3 days 20 points, fixed with 5 days 10 points, > 5 days 0 points)
- 5) Does your instrument supplier keep a good stock of expendable components on hand in North America so that repairs and/or replacement can be effected within 48 hours? (yes 10 points, no 0 points)

Was the service engineer courteous and appropriately professional? (5 points)

4.1.2 Financial Evaluation

4.1.2.1 **Mandatory Financial Criteria** – Pricing must be submitted in Canadian currency in accordance with Annex B, Basis of Payment.

4.1.2.2 Evaluated Price will be the Firm Lot Price at item 1.0, Firm Requirement, in Annex B, Basis of Payment

4.1.2.3 The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, FOB destination, delivery charges. Canadian customs duties and excise taxes included.

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
 - c. obtain the required minimum points specified for criteria numbers 1 and 5 for the technical evaluation, and

The rating is performed on a scale of 1366 points.

2. Bids not meeting (a) or (b) or (c) 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 60% for the technical merit and 40% 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 60 %.
5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 40 %.
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).

| 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 |

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and associated 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 in carrying out any of its obligations under the Contract, 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 may render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid, but may be submitted afterwards. If any of these required certifications 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 comply with the request of the Contracting Authority and to provide the certifications within the time frame provided will render the bid non-responsive.

5.1.1 Integrity Provisions - Associated Information

By submitting a bid, the Bidder certifies that the Bidder and its Affiliates are in compliance with the provisions as stated in Section 01 Integrity Provisions - Bid of Standard Instructions 2003. The associated information required within the Integrity Provisions will assist Canada in confirming that the certifications are true.

5.1.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list (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.

5.1.3 Additional Certifications Precedent to Contract Award

5.1.3.1 OEM Certification

- (a) Any Bidder that is not the Original Equipment Manufacturer (OEM) for every item of hardware proposed as part of its bid is required to submit the OEM's certification regarding the Bidder's authority to provide and maintain the OEM's hardware, which must be signed by the OEM (not the Bidder). No Contract will be awarded to a Bidder who is not the OEM of the hardware it proposes to supply to Canada, unless the OEM certification has been provided to Canada. Bidders are requested to use the OEM Certification Form included with the bid solicitation Annex C. Although all the contents of the OEM Certification Form are required, using the form itself to provide this information is not mandatory. For Bidders/OEMs who use an alternate form, it is in Canada's sole discretion to determine whether all the required information has been provided.

- (b) If the hardware proposed by the Bidder originates with multiple OEMs, a separate OEM certification is required from each OEM.
- (c) For the purposes of this bid solicitation, OEM means the manufacturer of the hardware, as evidenced by the name appearing on the hardware, on all accompanying documentation, on mandatory certification reports, and on any support software.

5.1.3.2 Software Publisher Certification and Software Publisher Authorization

If the Bidder is the Software Publisher for any of the proprietary software component(s) it bids, Canada requires that the Bidder confirm in writing that it is the Software Publisher. Bidders are requested to use the Software Publisher Certification Form included with the bid solicitation. Although all the contents of the Software Publisher Certification Form are required, using the form itself to provide this information is not mandatory. For bidders who use an alternate form, it is in Canada's sole discretion to determine whether all the required information has been provided. Alterations to the statements in the form may result in the bid being declared non-responsive.

- (b) Any Bidder that is not the Software Publisher of all the proprietary software products or components proposed in its bid is required to submit proof of the Software Publisher's authorization, which must be signed by the Software Publisher (not the Bidder). No Contract will be awarded to a Bidder who is not the Software Publisher of all of the proprietary software it proposes to supply to Canada, unless proof of this authorization has been provided to Canada. If the proprietary software proposed by the Bidder originates with multiple Software Publishers, authorization is required from each Software Publisher. Bidders are requested to use the Software Publisher Authorization Form included with the bid solicitation. Although all the contents of the Software Publisher Authorization Form are required, using the form itself to provide this information is not mandatory. For Bidders/Software Publishers who use an alternate form, it is in Canada's sole discretion to determine whether all the required information has been provided. Alterations to the statements in the form may result in the bid being declared non-responsive.
- (c) In this bid solicitation, "Software Publisher" means the owner of the copyright in any software included in the bid, who has the right to license (and authorize others to license/sub-license) its software products.

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.

6.3 Standard Clauses and Conditions

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

6.3.1 General Conditions

[2010A](#) (2014-09-25), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

The Article 27, 2030 (2014-09-25) General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

2030 27 Intellectual Property Infringement and Royalties

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

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

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

6.3.2 Supplemental General Conditions

4001 (2013-01-28), Supplemental General Conditions – Hardware Purchase, Lease and Maintenance, apply to and form part of the Contract.

4003 (2010-08-16), Supplemental General Conditions – Licensed Software, apply to and form part of the Contract.

6.4 Term of Contract

6.4.1 Delivery Date

All the deliverables must be received on or before 31 March 2015.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Kieta Boulet
Title: Supply Specialist
Public Works and Government Services Canada
Acquisitions Branch
Directorate: Ontario
Address: 33 City Centre Drive, Suite 480C
Mississauga, ON L5B 2N5
Telephone: 905-615-2078
Facsimile: 905-615-2060
E-mail address: kieta.boulet@pwgsc-tpsgc.gc.ca

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

6.5.2 Project Authority

The Project Authority for the Contract is:

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

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

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

6.5.3 Contractor's Representative

Name: _____
Title: _____

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

6.6 Payment

6.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm lot price, as specified in Annex B for a cost of \$ _____ (amount to be inserted 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 Single Payment

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

6.7 Invoicing Instructions

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

6.8 Certifications

6.8.1 Compliance

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing associated 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 associated 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 _____.

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 (2013-01-28), Hardware Purchase, Lease and Maintenance;
- (c) the supplemental general conditions 4003 (2010-08-16), Licensed Software;
- (d) the general conditions 2010A (2014-09-25), Goods (medium complexity);
- (e) Annex A, Requirement;
- (f) Annex B, Basis of Payment;
- (g) the Contractor's bid dated _____ .

6.11 SACC Manual Clauses

A9068C (2010-01-11) Government Site Regulation
B1501C (2006-06-16) Electrical Equipment
G1005 (2008-05-12) Insurance

ANNEX A REQUIREMENT

1. General Information

1.1. Requirement

Water Science and Technology Directorate of Environment Canada (Canada Centre for Inland Waters, located at Burlington, Ontario, Canada) requires a new reliable and robust automated Gas Chromatograph - Mass Spectrometer Detector, Purge and Trap Concentrator and Autosampler to replace an existing system (Agilent 6890/5973 GC/MSD, Tekmar 3100 concentrator and Tekmar Aquatek 70 autosampler). Instruments must have a proven track record to achieve Environment Canada deliverables on legacy and new and emerging volatile compounds at trace levels in the Great Lakes Basin and across Canada.

The instrument is required to concentrate, detect, identify and quantify low levels of volatile contaminants (conventional halogenated and aromatics as well as emerging contaminants such as 1,4-dioxane and fuel oxygenates and polar solvents such as methanol and ethanol) in surface water, groundwater, leachates, process water from unconventional gas extraction wells and commercial/industrial wastes. The system must function as an accredited back-up system for tetrachloroethene analysis by the National Lab for Environmental Testing (NLET) for national regulatory enforcement samples. It is important that NLET have a complete back up system that is as similar as possible to their primary instrument to provide accredited analysis for time sensitive samples in the case of unscheduled downtime. NLET's current system is an Agilent 7890A/5975C (Inert Triple Axis Detector) GC/MSD, Teledyne Tekmar Stratum Purge and Trap Concentrator and uses one of two autosamplers: either an Agilent ARCHON purge and trap Autosampler that can be run in both soil and liquid mode, or a Teledyne Tekmar Aquatek 70 autosampler.

The system must include, at minimum, the following components: a gas chromatograph, a mass spectrometer detector capable of operating in positive ion electron ionization (EI) mode, a purge and trap concentrator, an autosampler for the purge and trap system, an uninterrupted power supply (UPS) for all components, split/splitless inlet, multimode inlet, a GC autosampler, a computer (with keyboard, dual LED monitors, colour laser printer and mouse) equipped with software capable of controlling all components of the GC-MSD and volatiles concentrator and autosampler systems. On site basic training is to be provided upon instrument installation. An additional advanced on-site training at a later date (4 days minimum) for at least four operators must also be supplied.

1.2 List of Abbreviations

| | |
|--------|---------------------------------------------------|
| CCIW | Canada Centre for Inland Waters |
| EI | Electron Ionization |
| GC | Gas Chromatograph |
| GC/MSD | Gas Chromatograph- Mass Spectrometer Detector |
| LOD | Limit of Detection |
| LOQ | Limit of Quantification |
| MSD | Mass Selective Detector |
| NLET | National Lab for Environmental Testing |
| RMS | Root Mean Square |
| RSD | Relative Standard Deviation |
| SIM | Selected Ion Monitoring |
| S/N | Signal-to-Noise Ratio |
| +/- | Positive/negative |
| UPS | Uninterrupted Power Supply |
| WHERD | Watershed Hydrology and Ecology Research Division |

2. Mandatory General Requirements

- 2.1 The system must be complete with all required accessories to operate all components, including gas chromatograph (GC) and MSD mainframes, purge and trap concentrator and autosampler, GC autosampler, capillary split/splitless inlet, and a multi-mode inlet, computer, dual monitors, software, printer and all required interface cables and accessories;
- 2.2 All equipment must be NEW. Demonstration models, used, refurbished or prototype instruments will not be considered. The system must be comprised of components which are supplied by one contractor;
- 2.3 If prior to delivery of goods, any component of the purchased system is upgraded or there is a new equipment release which would render the system obsolete or inferior in performance/sensitivity, the Contractor must provide Environment Canada with the upgrade or new equipment at no additional cost;
- 2.4 The Contractor must supply a UPS system that all components of the instrument system can be connected to;
- 2.5 The Contractor must include, at a minimum, a 1 year on-site warranty for all components in the proposed system in their **ENTIRETY** including parts and labor, travel, yearly preventative maintenance including any travel and living expenses from date of final acceptance sign-off;
- 2.6 The Contractor must include 72 hour on-site response time during the warranty period;
- 2.7 The Contractor must provide basic on-site training at Environment Canada, Burlington, Ontario at the time of installation and at a later date on-site (at Environment Canada, Burlington, Ontario) training that is more in-depth for up to 4 operators;
- 2.8 The system must be compatible with helium and hydrogen, so that either can be used as carrier gas for the GC/MSD instruments;
- 2.9 The system must have a 10-year use guarantee. The Contractor must fully support the instruments for a minimum period of 10 years from the date of purchase. Full support is to include maintenance of parts and trained personnel to service, troubleshoot, and repair the instruments and restore them to factory operating specifications;
- 2.10 All of the components of the systems (MSD, GC, purge and trap concentrator, autosampler, injection ports, software, data system, etc...) must be serviced and maintained by the Contractor;
- 2.11 The Contractor must provide a kit containing commonly used/required consumable parts with the instrument;
- 2.12 One (1) full and complete set of operating, maintenance and troubleshooting manuals, along with diagnostic protocols and lists of spare parts for all components must be provided on a CD or DVD with delivery of the system;
- 2.13 The Contractor must provide complete installation of the full system (including GC, MSD, purge and trap concentrator and autosampler, computer system, and printer), and upon installation, must demonstrate that the system operates as required in these specifications and each component of the instrument meets published performance specifications.;
- 2.14 The instrument provided will be heavily used by a number of researchers with time sensitive deliverables and it is imperative that it be rugged and reliable with a proven track record. Reliable and proven technical support is also critical. The contractor must be the supplier of the product

and provide the technical support. Technical service support must be located less than 200 km from CCIW Burlington. ;

- 2.15 The contractor must have a service history (minimum of 5 years) in the field of gas chromatography mass spectrometry;
- 2.16 The performance reported in the tender must be met or exceeded at installation;

3. Mandatory Detailed Specifications/Requirements

3.1 Tandem Mass Spectrometer (MSD):

- 3.1.1 Must be based on quadrupole mass spectrometry technology with a proven track record;
- 3.1.2 The Tandem Mass Spectrometer must be capable of operating in positive electron ionization (EI) mode;
- 3.1.3 Must be capable of full scan and selective ion monitoring (SIM);
- 3.1.4 Must be able to collect SIM and full scan data simultaneously;
- 3.1.5 Must be capable of a minimum dwell time per SIM of 10 msec with at least 50 SIM's per time group and at least 100 groups;
- 3.1.6 The tandem mass spectrometer must have design features that reduce the neutral noise from metastable helium created in the source;
- 3.1.7 The source must be able to be heated up to a minimum of 300°C; heating of the ion source is critical to maintaining instrument cleanliness and reducing carryover between samples of highly complex matrices;
- 3.1.8 Must be able to scan at least from 10 – 1000 m/z and have unit mass resolution;
- 3.1.9 Must have 0.1 amu mass stability in full scan mode over a minimum of 24 hours;
- 3.1.10 The scan speed must be 10,000 amu/s or faster to accommodate fast GC peak separation;
- 3.1.11 Must be equipped with a turbo-molecular pump(s);
- 3.1.12 The ion source must contain a dual filament to minimize instrument downtime;
- 3.1.13 The Mass Spectrometer must be able to measure 10 fg of OFN in positive EI SIM mode at 99% confidence interval. This is to be based on eight sequential 1µl splitless injections of 100 fg/µl of OFN at m/z 272; experimental conditions used by the contractor (injector, column, oven temperature program and MS conditions) and chromatograms must be included in the proposal;
- 3.1.14 The Mass Spectrometer must be capable of generating classical EI spectra, without any contamination by extraneous effects that might skew the naturally occurring abundances, that can be compared against commercial libraries;

3.2 Gas Chromatograph (GC):

- 3.2.1 The Gas Chromatograph must be capable of gas chromatography with full electronic pressure/flow control of all gas flows;
- 3.2.2 The electronic pressure/flow control must have a range 0 to 100 psi or greater, control pressure at 0.02 psi resolution or better ;
- 3.2.3 The GC must have two inlets, a split/splitless inlet for connection of the purge and trap concentrator transfer line and a multi-mode inlet capable of split/splitless and programmable temperature vaporizing injections;
- 3.2.4 The inlets must be capable of split ratios up to a least 5000:1, temperature of 400 °C or greater and electronic septum purge;
- 3.2.5 The GC must have a CO₂ cryogenic valve in the oven that allows the oven to be cooled with CO₂ to -30 °C;
- 3.2.6 The inlets must have an inert flow path;
- 3.2.7 The oven must have a maximum temperature of 450°C or greater and be able to ramp at 100 °C /min or more and have a temperature set-point resolution of 0.1 °C or better;

3.3 GC Injector/Autosampler:

- 3.3.1 Must have GC autosampler/injector which holds a minimum of 10 (2 mL vials) samples;
- 3.3.2 Autosampler/injector system must have a reproducibility < 5% RSD;
- 3.3.3 The autosampler must be able to perform multiple solvent washes for pre and post injection needle rinsing;
- 3.3.4 The injector must be capable of single stroke injection volumes as small as 0.5 µl to as large as 250 µl;
- 3.3.5 The injector must have the capability of variable needle depths;
- 3.3.6 The injector must have the capability of variable speeds;

3.4 Purge and Trap Concentrator: The concentrator must have the following features:

- 3.4.1 The concentrator must have a moisture trapping system that minimizes the amount of water transferred to the GC;
- 3.4.2 The concentrator must have electronic control of gas flows;
- 3.4.3 The concentrator must be able to purge volumes from 5 to 20 mL;
- 3.4.4 To purge very polar analytes the concentrator must be able to heat the purge vessel to at least 60 °C during the purge cycle;

- 3.4.5 To save on helium use the concentrator must be able to be configured such that nitrogen is the purge gas and helium is the trap desorb gas;
- 3.4.6 There must be a sensor that prevents the instrument from being contaminated with surfactant foam;
- 3.4.7 The following sparge tubes must be included: 5 mL fritted, 25 mL fritted, 5 mL unfritted and 25 mL unfritted;
- 3.4.8 Transfer line to GC must be inert and unreactive and must be able to be heated to 300 °C;
- 3.4.9 Traps must be available in standard EPA specified formats;
- 3.4.10 Trap must be able to be heated from ambient to 400 °C;
- 3.4.11 There must be full software control over all of the flows, heated zones and timed variables/steps in the process;
- 3.4.12 Must be able to store multiple methods and run different methods during a sequence of samples;
- 3.4.13 The concentrator must have the ability to perform automatic leak checks;
- 3.4.14 With the addition of an autosampler the concentrator must be able to run unattended;

3.5 Purge and Trap Concentrator Autosampler: The autosampler must have the following features:

- 3.5.1 Autosampler must be able to process water samples in standard 40 ml volatile vials;
- 3.5.2 The autosampler must be able to flush the entire liquid sample path including the concentrator with water that is heated by the autosampler;
- 3.5.3 The autosampler must work in conjunction with the concentrator;
- 3.5.4 Autosampler must be able to add automatically internal standard to the sample as it is being transferred to the concentrator;
- 3.5.5 The autosampler sample path must be chemically inert and have large bore tubing that will not plug with particles;
- 3.5.6 Autosampler must be able to hold at least 100 VOA 40 ml vials;
- 3.5.7 All paramaters must be able to be set in the software and method saved. Multiple methods must be able to be run in a sequence;

3.6 Data System

- 3.6.1 A data System is required that must fully control all settable parameters in the MS (source,vacuum, quadrupole & detector), GC and autosampler to allow unattended operation (i.e overnight runs). The software must be able to acquire MSD data, calibrate and quantify target compounds, perform library searches of spectra obtained for target and non-target compound and export the data to EXCEL spreadsheets while unattended;
- 3.6.2 Software must have the ability to transfer methods from the National Labs volatiles purge and trap instrument (described in section 1.1) to the proposed instrument such that all relative retention times for analytes of interest remain identical between the two set-ups;
- 3.6.3 The data system must have NIST library with illustration of chemical structures and library search functions that is integrated into the software;
- 3.6.4 The data system must have the ability to autotune to perfluorotributylamine (PFTBA), in addition to manual tune capabilities;
- 3.6.5 Must be capable of running more than one method in the same automated run;
- 3.6.6 Software must be supported by the manufacturer for at least 5 years;
- 3.6.7 Any new software versions that become available during the warranty period of the instruments must be included and installed at no extra charge;
- 3.6.8 Must include CPU, two 24" LED flat screen monitors and one desktop color laser all-in-one printers (print, scan, copy, with color capability);

ANNEX B BASIS OF PAYMENT

1.0 Firm Requirement

The firm lot price must be an **all inclusive price in Canadian funds**, including Canadian custom duties, excise taxes, F.O.B. Destination, including all delivery charges to Environment Canada at Burlington Ontario, excluding GST/HST.

| Item No. | Description | Qty | Firm Lot Price |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------|
| 1. | For the supply and delivery of a complete and fully functional Automated Gas Chromatograph Mass Spectrometer Detector, Purge and Trap Concentrator and Autosampler in accordance with the specifications detailed in Annex A, including on-site training, delivery, 12 month warranty, <u>and any other items or service required to complete the system as specified in Annex A.</u> Manufacturer: _____ Make and Model: _____ | 1 | \$ _____ |
| | GST/HST | | \$ _____ |
| | TOTAL | | \$ _____ |

1.1 **Delivery**

Delivery is requested as soon as possible, but delivery must be completed no later than 31 March 2015.

2.0 Optional Requirement

| Item No. | Description | Number of years | Firm price per year |
|----------|-------------------|-----------------|---------------------|
| 2. | Extended Warranty | _____ year(s) | \$ _____ / year |
| | GST/HST | | \$ _____ |
| | TOTAL | | \$ _____ |

Solicitation No. - N° de l'invitation
KW405-140487/A
Client Ref. No. - N° de réf. du client
KW405-140487

Amd. No. - N° de la modif.
File No. - N° du dossier
TOR-4-37094

Buyer ID - Id de l'acheteur
tor009
CCC No./N° CCC - FMS No./N° VME

ANNEX C
CERTIFICATIONS

Form 1

OEM Certification Form

This confirms that the original equipment manufacturer (OEM) identified below has authorized the Bidder named below to provide and maintain its products under any contract resulting from the bid solicitation identified below.

Name of OEM _____

Signature of authorized signatory of OEM _____

Print Name of authorized signatory of OEM _____

Print Title of authorized signatory of OEM _____

Address for authorized signatory of OEM _____

Telephone no. for authorized signatory of OEM _____

Fax no. for authorized signatory of OEM _____

Date signed _____

Solicitation Number _____

Name of Bidder _____

Form 2

Software Publisher Certification Form

(to be used where the Bidder itself is the Software Publisher)

The Bidder certifies that it is the software publisher of all the following software products and components and that it has all the rights necessary to license them (and any non-proprietary sub-components incorporated into the software) on a royalty-free basis to Canada:

[bidders should add or remove lines as needed]

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Form 3

Software Publisher Authorization Form

(to be used where the Bidder is not the Software Publisher)

This confirms that the software publisher identified below has authorized the Bidder named below to license its proprietary software products under any contract resulting from the bid solicitation identified below.

This authorization applies to the following software products:

[bidders should add or remove lines as needed]

Name of Software Publisher (SP) _____

Signature of authorized signatory of SP _____

Print Name of authorized signatory of SP _____

Print Title of authorized signatory of SP _____

Address for authorized signatory of SP _____

Telephone no. for authorized signatory of SP _____

Fax no. for authorized signatory of SP _____

Date signed _____

Solicitation Number _____

Name of Bidder _____