

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

**Bid Receiving - PWGSC / Réception des
soumissions - TPSGC**
11 Laurier St./ 11 rue, Laurier
Place du Portage, Phase III
Core 0A1 / Noyau 0A1
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

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 CONTINUOUS VOC MONITORS		
Solicitation No. - N° de l'invitation K8A21-120232/A	Date 2013-02-20	
Client Reference No. - N° de référence du client K8A21-120232		
GETS Reference No. - N° de référence de SEAG PW-\$\$PV-929-62252		
File No. - N° de dossier pv929.K8A21-120232	CCC No./N° CCC - FMS No./N° VME	
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-04-02		Time Zone Fuseau horaire Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>		
Address Enquiries to: - Adresser toutes questions à: Martin, Doug		Buyer Id - Id de l'acheteur pv929
Telephone No. - N° de téléphone (819) 956-4037 ()		FAX No. - N° de FAX (819) 956-3814
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF THE ENVIRONMENT AIR QUALITY RESEARCH 335 RIVER RD ATTN: JEAN-PIERRE CHARLAND OTTAWA Ontario K1A0H3 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

Scientific, Medical and Photographic Division / Division de
l'équipement scientifique, des produits photographiques et
pharmaceutiques
11 Laurier St./ 11 rue, Laurier
6B1, Place du Portage
Gatineau, Québec K1A 0S5

Delivery Required - Livraison exigée See Herein	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


<div>  <div>Public Works and Government Services Canada</div> </div>		Travaux publics et Services gouvernementaux Canada		Document No. K8A21-120232/A		Part - Partie 1 of - de 2	
				See Part 2 for Clauses and Conditions Voir Partie 2 pour Clauses et Conditions			
Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM Destination Plant/Usine	Del. Offered Liv. offerte
1	Continuous VOC monitors	K8A21	K8A21	2	Each	\$	See Herein

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Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur

pv929

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PART 1 - GENERAL INFORMATION

1. Security Requirement

There is no security requirement associated with the requirement.

2. Requirement

Environment Canada, Air Quality Research has a requirement for the supply of (2) two "Monitoring system to measure VOCs (C2-C12) in Ambient Air at Trace Levels in Real Time" in accordance with the mandatory specifications detailed at Annex "A".

Training and manuals included.

3. Debriefings

After contract award, bidders may request a debriefing on the results of the bid solicitation. Bidders should make the request to the Contracting Authority within 15 working days of receipt of notification that their bid was unsuccessful. The debriefing may be provided in writing, by telephone or in person.

PART 2 - BIDDER INSTRUCTIONS

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 issued by Public Works and Government Services Canada (PWGSC). The Manual is available on the PWGSC Website:

<http://sacc.pwgsc.gc.ca/sacc/index-e.jsp>.

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 following are incorporated by reference into and form part of the bid solicitation.

The 2003 (2012-11-19) Standard Instructions - Goods or Services - Competitive Requirements,

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.

3. 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.

4. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than ten (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

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File No. - N° du dossier

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such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

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

Section I: Technical Bid (two (2) hard copies), consisting of technical brochures/literature to verify compliancy and test data, if applicable

Section II: Financial Bid (one (1) hard copy)

Section III: Certifications (one (1) hard copy)

Prices must appear in the financial bid only.

No prices must be indicated in any other section of the bid.

Bidders are requested to submit one quotation document with prices, and a second quotation document with prices removed.

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;
- (c) include the certifications as a separate section of the bid.
- (d) In April 2006, Canada issued a policy directing federal departments and agencies to take necessary steps to incorporate environmental considerations into the procurement process Policy of Green Procurement (<http://www.tpsgc-pwgsc.gc.ca/ecologistation-greening/chats-procurement/politique-policy-eng.html>). To Assist Canada in reaching its objectives, bidders are encouraged to:

1) use 8.5. X 11 inch (216 mm X 279 mm) paper containing fibre certified as origination from a sustainably-managed forest and /or 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.

1.1 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.

The following applies to the Requirement and bidders must provide the following information in the bid where applicable:

1.1.1 Product(s) Offered (To be completed by bidder)

Indicate the make and model of the product(s) offered:

Name of Manufacturer: _____

Model/Part Number: _____

1.1.2 Point of Manufacture/Shipping (To be completed by bidder)

The Bidder must state the point of manufacture/shipping of goods:

Location: _____ Postal Code: _____

1.1.3 Delivery (To be completed by bidder)

Delivery is requested by 01 June 2013, the best delivery that could be offered by the Bidder is _____.

Delivery is Mandatory by March 31, 2014.

Installation (To be completed by bidder)

On-site installation must be provided and shall be carried out by a qualified service technician.

State your best installation schedule. Installation will be carried out within _____ (_ _) calendar days of delivery and be completed within _____ (_ _) calendar days.

Documentation (To be completed by bidder)

Operator and Service Manuals must be supplied with the equipment.

Operational manuals in English available. _____ Yes.

Service manuals in English available. _____ Yes.

Operational manuals in French available. _____ Yes.

Service manuals in French available. _____ Yes.

Training (To be completed by bidder)

On-site user training must be provided for up to _____ (_ _) users. All costs associated with the on-site training must be included in the price.

On-site training will be completed within _____ (_ _) calendar days of installation.

Provide complete details of training e.g. duration, scope, etc.,

Service (To be completed by bidder)

Purchase of the system must include: regional technical support; technical phone support; support via the Internet; and support via a fax-back document system.

Response for service shall be within 24 hours or less.

Also, provide the following with your bid:

a) Location of available service facilities (after sales service and repair). List the service facilities closest to the destination.

b) Locations of available replacement parts from consumables to major components.

c) Response time re: service calls, and escalation schedule, i.e. (how many days with no resolution to a problem until a more experienced person is called in, and from which location).

e) List the frequency of routine maintenance visits provided by a qualified service technician during the warranty period, if applicable and included in the price.

1.1.4 Contacts

Bidders are requested to provide the following:

Information pertaining to Part 6, Resulting Contract Clauses. 5.3 Contractor's Representative.

1.2 Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Goods and Services Tax (GST) or Harmonized Sales Tax (HST) is to be shown separately, if applicable.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

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 herein; and
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

All proposals submitted shall be completed in full and provide all of the information requested in the Request for Proposal (RFP) package to enable a full and complete evaluation. If the requirement is not addressed in the bidder's proposal, the proposal will be considered incomplete or non-responsive and will be rejected. The onus is on the bidder to provide all the information necessary to ensure a complete and accurate assessment.

2 Factors for Evaluation

1. **PRICING BASIS (MANDATORY):** Prices must be firm.
2. **BID VALIDITY PERIOD (MANDATORY):** Offers are to remain open for a period of not less than ninety (60) days from the date of closing of this Request for Proposal.
3. **ABILITY TO MEET THE TECHNICAL REQUIREMENT (MANDATORY):**
 - a) For Items Defined by Specifications:

The bidder MUST cross reference the mandatory technical criteria contained herein to their proposal providing clear indication where a bid does NOT conform to the specifications. If no exceptions are taken to the specifications, Canada will assume the bidder's complete compliance in their assessment of the offer and in any subsequent contract award.
 - b) Provision of Supporting Technical Documentation:

Supporting technical documentation for the stores offered shall be provided with the bid at time of bid closing. Technical brochures or technical data MUST be provided to verify compliancy to the technical mandatory specifications
4. **COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS REQUEST FOR PROPOSAL (MANDATORY)**
5. **FOR CANADIAN SUPPLIERS ONLY:** Please note that the requirements of the Federal Contractors Program for Employment Equity may apply - see herein. (MANDATORY if applicable)
3. **Basis of Selection**
 1. A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price, including options, will be recommended for award of a contract.
 2. The lowest evaluated price will be established using the following criteria:
 - a) Prices will be evaluated in Canadian Funds including any applicable Excise Taxes and Canadian Customs Duty (if applicable) and excluding the Goods and Services Tax (GST) or Harmonized Sales Tax (HST). For evaluation purposes, bids received in a foreign currency will be converted to Canadian funds using the appropriate rate of exchange using the rate quoted by the Bank of Canada as being in effect on date of bid closing;
 - b) Prices will be evaluated on a "DDP Destination" basis, unless otherwise specified.
 3. Requests for Exchange Rate Fluctuation Protection and/or Progress Payments will not be considered.

PART 5 - CERTIFICATIONS

Certifications with the Bid

In order to be considered for contract award, a bidder whose bid is technically and financially responsive, must meet the following conditions:

Code of Conduct Certifications - Certifications Required Precedent to Contract Award

Bidders should provide, with their bids or promptly thereafter, a complete list of names of all individuals who are currently directors of the Bidder.

Family Name

Given Name(s)

Family Name

Given Name(s)

Family Name

Given Name(s)

Family Name

Given Name(s)

Family Name

Given Name(s)

If such a list has not been received by the time the evaluation of bids is completed, the Contracting Authority will inform the Bidder of a time frame within which to provide the information.

Bidders must submit the list of directors before contract award, failure to provide such a list within the required time frame will render the bid non-responsive.

The Contracting Authority may, at any time, request that a Bidder provide properly completed and Signed Consent Forms (Consent to a Criminal Record Verification form - PWGSC-TPSGC 229)

(<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/229.pdf>), for any or all individuals named in the aforementioned list within a specified delay.

Failure to provide such Consent Forms within the delay will result in the bid being declared non-responsive.

Federal Contractors Program for Employment Equity - \$200,000 or more

1. The Federal Contractors Program for Employment Equity (FCP-EE) requires that some organizations bidding for federal government contracts, valued at \$200,000 or more (including all applicable taxes), make a formal commitment to implement employment equity, as a condition precedent to the contract award. If the bidder is subject to the Program, evidence of its commitment must be provided prior to the award of any contract.

Contractors that have been declared Ineligible Contractors by the Department of Human Resources and Skills Development (HRSD) are no longer eligible to receive government contracts over the threshold for solicitation of bids as set out in the Government Contract Regulations (currently at \$25,000, including all

applicable taxes), either as a result of a finding of non-compliance by the Department of HRSD, or following their voluntary withdrawal from the Program for a reason other than the reduction in their workforce. Any bid from ineligible contractors will not be considered for award.

2. The Bidder certifies its status with FCP-EE, as follows:

The Bidder

- (a) () is not subject to FCP-EE, having a workforce of less than 100 permanent full or part-time employees in Canada,
- (b) () is not subject to FCP-EE, being a regulated employer under the Employment Equity Act;
- (c) () is subject to the requirements of FCP-EE, having a workforce of 100 or more permanent full or part-time employees in Canada, but has not previously obtained a certificate number from the Department of HRSD, (having not bid on requirements of \$200,000 or more), in which case a duly signed certificate of commitment is provided herewith (attached);
- (d) () is subject to FCP-EE, and has a valid certification number as follows: _____
(e.g. Has not been declared Ineligible Contractor by the Department of HRSD).

3. If the Bidder does not fall within the exceptions enumerated in 2. (a) or (b), the Program requirements do apply, and as such, the Bidder is required to submit to the Department of HRSD form LAB 1168, Certificate of Commitment to Implement Employment Equity, DULY SIGNED or a valid Certificate number confirming its adherence to the FCP-EE.

4. The Bidder acknowledges that the Minister shall rely on this certification to award the Contract. Should a verification by the Minister disclose a misrepresentation on the part of the Bidder, the Minister shall have the right to treat any contract resulting from this bid as being in default, and to terminate it pursuant to the Default provisions of the Contract.

5. In all cases, the Bidder is required to produce evidence or supporting information on demand prior to contract award, if such evidence is not included with its bid.

Signature of authorized representative: _____.Date: _____

NOTE:Information on the FCP-EE and the Certificate of Commitment (LAB 1168) are available on the following Department of HRSD Website:

<http://www.hrsdc.gc.ca/en/gateways/topics/wzp-gxr.shtml> and
<http://www100.hrdc.gc.ca/labswenm1e.shtml>, respectively.

PART 6 - RESULTING CONTRACT CLAUSES

1. Security Requirement

There is no security requirement associated with the requirement.

2. Requirement

Environment Canada, Air Quality Research has a requirement for the supply of (2) two "Monitoring system to measure VOCs (C2-C12) in Ambient Air at Trace Levels in Real Time" in accordance with the mandatory specifications detailed at Annex "A".

Training and manuals included.

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 issued by Public Works and Government Services Canada (PWGSC). The Manual is available on the PWGSC Website: <http://sacc.pwgsc.gc.ca/sacc/index-e.jsp>.

3.1 General Conditions

2010A (2012-11-19) General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

4. Term of Contract

The contract will be force until all warranty and or optional provisions of this agreement are expired

4.1 Delivery Date

Delivery must be completed on or before *(to be filled in at contract award)*.

4.1.2 Shipping Instructions

4.1.2. Shipping Instructions - Delivery at Destination

1. Shipment shall be consigned to the destination specified, and delivered:

DDP Delivered Duty Paid Ottawa, Ontario Incoterms 2000.

2. The Contractor will be responsible for all delivery charges, administration, costs and risk of transport and customs clearance, including the payment of customs duties and taxes.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Doug Martin, Supply Specialist (PV)

Public Works and Government Services Canada

Acquisitions Branch

Commercial Consumer Products Directorate

11 Laurier Street, (44) 6A2, Phase III

Place du Portage, Hull, Quebec, K1A 0S5

Telephone: (819) 956 4037

Facsimile: (819) 956-3814

E-mail address: **doug.martin@pwgsc.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.

5.2 Technical Authority (to be filled in only at contract award)

The Technical Authority for the Contract is:

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

5.3 Contractor's Representative

Contractor's Representative (To be completed by bidder)

The telephone number of the person responsible for :

General enquiries

Name: _____ Telephone No. _____

Facsimile No. _____ E-mail address: _____

Delivery Follow-up

Name: _____ Telephone No. _____

Facsimile No. _____ E-mail address: _____

6. Payment

6.1 Basis of Payment - Firm Price

1. In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor shall be paid a firm price of **\$ XX.XX** (to be filled in at contract award) Goods and Services Tax or Harmonize Sales Tax extra, if applicable.
2. No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Specifications, will be authorized or paid to the Contractor unless such design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority prior to their incorporation in the Work.

6.2 Single Payment

Canada will pay the Contractor upon completion and delivery of the Work in accordance with the payment provisions of the Contract if:

- (a) an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- (b) all such documents have been verified by Canada;
- (c) the Work delivered has been accepted by Canada.

7. Invoicing Instructions

Invoicing Instructions

The Contractor must submit invoices in accordance with the information required in **Section 10, 2010A (2012-11-19) General Conditions - Goods or Services (Medium Complexity)**.

Original copy to **consignee** with one copy to the **Contracting Authority**.

Name: Doug Martin
Public Works and Government Services Canada
Acquisition Branch, CASMS
Telephone: (819) 956-4037
Facsimile: (819) 956-3814
E-Mail address: doug.martin@pwgsc.gc.ca

The Invoice contact for the Contract is: (*To be filled in at time of contract award*)

8. Certifications

Compliance with the certifications provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the entire contract period. If the Contractor does not comply with any certification or 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.

8.2 SACC Manual Clauses

A2000C	Foreign Nationals (Canadian Contractor)	06/06/16
A2001C	Foreign Nationals (Foreign Contractor)	06/06/16
A9131C	Controlled Goods Production	08/12/12
B1501C	Electrical Equipment	06/06/16
B7500C	Excess Goods	06/06/16
C0100C	Discretionary Audit - Commercial Goods and/or Services	07/05/25

9. Applicable Laws

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

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) **2010A (2012-07-16) General Conditions - Goods or Services (Medium Complexity);**
- (c) Annex A, Requirement;
- (d) the Contractor's bid dated _____ as clarified on _____ " **or** ", as amended on _____

Annex "A" REQUIREMENT

Mandatory Specifications for a "Monitoring system to measure VOCs (C2-C12) in Ambient Air at Trace Levels in Real Time" :

Bidder must complete the following statement of compliance.

The Bidder shall indicate compliance to each item. Failure to comply with the mandatory system specifications will render your proposal non-responsive, and no further consideration will be given.

Your quote must include and list all of the components necessary to meet these mandatory specifications.

Bidders must ensure that adequate literature/technical brochure(s) are submitted at time of bid closing to support compliance with all mandatory technical criteria.

Requirements and Specifications

1.0 Requirement:

The requirement for this RFP includes instruments for analysing and continuous monitoring of volatile organic compounds (VOC) in ambient air at trace levels in the range of C2 to C12 using a Flame Ionization Detector (FID).

The VOC monitoring system includes two analyzers/gas chromatographs (GC) to cover the range of C2 to C12, a hydrogen generator to supply hydrogen for the flame ionization detectors, a dilution calibrator, and a zero air generator.

To satisfy the requirements of the National Air Pollution Surveillance (NAPS) Program the system must meet the following mandatory specifications:

M1.0 The monitoring system must work, be fully synchronized amongst components, be complete and commercially available at bid closing and meet all mandatory functional and performance specifications as detailed herein.

Page Reference in documentation supplied _____

M1.1 The system components must be CSA, ETL or UL approved.

Page Reference in documentation supplied _____

M1.2 All fittings and tubing must be imperial sizes (i.e. not metric).

Page Reference in documentation supplied _____

M1.3 1 year warranty from the date of acceptance testing which includes parts, labour and shipping.

M1.4 FOB Ottawa, Ontario.

Page Reference in documentation supplied _____

M2 The two gas chromatographs (GC) component of the VOC monitoring system must deliver, enable and support the following:

M2.1 Fully automatic for continuous measurement of volatile organic compounds (ozone precursors) from the range of C2 to C12. At a minimum, the measured compounds must include the PAMS target list of VOCs as specified by the U.S. EPA.

Page Reference in documentation supplied _____

M2.2 Minimum detection limit smaller than 10ppt for benzene with a 60-minute cycle time and 500sccm of sample volume. (note that MDL = 3 x RMS noise of baseline).

Page Reference in documentation supplied _____

M2.3 Minimum detection limit smaller than 10ppt for n-butane with a 60 minute cycle time and 500sccm of sample volume.

Page Reference in documentation supplied _____

M2.4 Flame ionization detectors (FID) on both GC.

Page Reference in documentation supplied _____

M2.5 Automated ignition of the FID flame and monitoring of the flame during operation.

Page Reference in documentation supplied _____

M2.6 Hydrogen as carrier gas.

Page Reference in documentation supplied _____

M2.7 Detector drift of less than 5% over 3 months.

Page Reference in documentation supplied _____

M2.8 Flow rates control (sample volume and hydrogen) by mass flow controllers.

Page Reference in documentation supplied _____

M2.9 Removal of sample water using a stripping column.

Page Reference in documentation supplied _____

M2.10 Air sampling pump and flow controller installed downstream of the enrichment stage.

Page Reference in documentation supplied _____

M2.11 Sampling flow rate adjustable from 10 to 50 sccm.

Page Reference in documentation supplied _____

M2.12 Sampling volume selectable from 100 to 999 sccm.

Page Reference in documentation supplied _____

M2.13 Sampling time selectable from 1 to 99 minutes.

Page Reference in documentation supplied _____

M2.14 Menu driven integrated software for internal process control and setup using touch screen and/or key pad. Software allows to edit and load user-defined analytical methods, display of system status and chromatograms on screen, data acquisition and self diagnostic capabilities with logging of events, warning and errors.

Page Reference in documentation supplied _____

M2.15 Remote setup, control and operation capabilities using any type of PC remote desktop applications.

Page Reference in documentation supplied _____

M2.16 Meets European approvals for the measurement of benzene.

Page Reference in documentation supplied _____

M2.17 Power supply of 120V/60Hz.

Page Reference in documentation supplied _____

M2.18 Instruction manual and user interface software manual, and technical documentation for service purposes

Page Reference in documentation supplied _____

M3 The high purity hydrogen generator component of the VOC monitoring system must deliver, enable and support the following:

M3.1 Supply hydrogen with a purity greater than 99.999%.

Page Reference in documentation supplied _____

M3.2 PEM (Proton Exchange membrane) technology using de-ionized water supply.

Page Reference in documentation supplied _____

M3.3 Automatic refill of internal water tank using external supply of deionised water.

Page Reference in documentation supplied _____

M3.4 Menu driven integrated software for setup and operation using touch screen and/or key pad. Viewing of instrument status, flow rate, mode of operation and output pressure on built-in display screen.

M3.5 Duty cycle of 100% (24/7/365).

Page Reference in documentation supplied _____

M3.6 Includes instruction manual and user interface software manual, and technical documentation for service purposes.

Page Reference in documentation supplied _____

M3.7 Power supply of 120V/60Hz

Page Reference in documentation supplied _____

M4 The gas dilution calibrator component of the VOC monitoring system must deliver, enable and support the following:

M4.1 Zero air to be supplied by zero air generator for the usage to the flame of the FID, calibration system and zero air analysis.

Page Reference in documentation supplied _____

M4.2 One dilution (zero air) mass flow controller with operating range 100-5000scm with accuracy less than 1% of reading.

Page Reference in documentation supplied _____

M4.3 One gas mass flow controller with accuracy of less than 1% of reading.

Page Reference in documentation supplied _____

M4.4 Dilution ratio of 1 to 2500 minimum.

Page Reference in documentation supplied _____

M4.5 Calibrated for use of air as dilution zero gas.

Page Reference in documentation supplied _____

M4.6 Manual, automatic and remote control capability for unattended operation.

Page Reference in documentation supplied _____

M4.7 Menu driven integrated software for setup and operation using touch screen and/or key pad. Viewing of instrument status, flow rates, mode of operation on built-in display screen.

Page Reference in documentation supplied _____

M4.8 Automatic calculation of dilution and gas flows based on requested concentrations.

Page Reference in documentation supplied _____

M4.9 Must Include instruction manual and user interface software manual, and technical documentation for service purposes.

Page Reference in documentation supplied _____

M4.10 Power supply of 120V/60Hz.

Page Reference in documentation supplied _____

M5 The high purity zero air generator component of the VOC monitoring system must deliver, enable and support the following:

M5.1 Zero air to be supplied by zero air generator for the usage to the flame of the FID, calibration system and zero air analysis.

Page Reference in documentation supplied _____

M5.1 Flow rate suitable for complete VOC monitoring system.

Page Reference in documentation supplied _____

M5.2 Zero air generation free of hydrocarbons greater or equal to C2 and less than 0.05ppm HC.

Page Reference in documentation supplied _____

M5.3 Zero air dust free (high efficiency filter to remove particle greater than 5 micron).

Page Reference in documentation supplied _____

M5.4 Compressor which supplies dry compressed air to the zero air generator, free of oil with a dew point of less than 20 deg. C.

Page Reference in documentation supplied _____

M5.5 User interface which indicates instrument status.

Page Reference in documentation supplied _____

M5.6 Includes instruction manual, and technical documentation for service purposes.

Page Reference in documentation supplied _____

M5.7 Power supply of 120V/60Hz.

Page Reference in documentation supplied _____