



Public Works and  
Government Services  
Canada

Travaux publics et  
Services gouvernementaux  
Canada

## 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

### 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

Title - Sujet		
Meteorological Instruments		
Solicitation No. - N° de l'invitation		Date
K3D33-180515/A		2017-10-25
Client Reference No. - N° de référence du client		
K3D33-180515		
GETS Reference No. - N° de référence de SEAG		
PW-\$TOR-008-7392		
File No. - N° de dossier	CCC No./N° CCC - FMS No./N° VME	
TOR-7-40077 (008)		
<b>Solicitation Closes - L'invitation prend fin</b>		Time Zone
<b>at - à 02:00 PM</b>		Fuseau horaire
<b>on - le 2017-12-05</b>		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:		Buyer Id - Id de l'acheteur
Leslie, Sandra		tor008
Telephone No. - N° de téléphone	FAX No. - N° de FAX	
(905) 615-2069 ( )	( ) -	
Destination - of Goods, Services, and Construction:		
Destination - des biens, services et construction:		
DEPARTMENT OF THE ENVIRONMENT		
4905 DUFFERIN STREET		
DOWNSVIEW		
Ontario		
M3H5T4		
Canada		

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
See Herein	
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

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## PART 1 - GENERAL INFORMATION

### 1. Requirement

- 1.1 Environment and Climate Change Canada (ECCC), Meteorological Service of Canada (MSC) requires the supply, delivery, and support (availability of parts and servicing) of atmospheric pressure sensors for non-aviation meteorological field observations, in accordance with MSC's technical specifications and user requirements over the next 10 years with the option to purchase additional units. The MSC requires a continuous supply of sensors that can be procured over an extended period of time (up to 10 years) and must operate at all of ECCC's data-logger stations. To ensure instrument continuity and data homogeneity, ECCC intends to use the same pressure sensor model throughout the period.
- 1.2 Environment and Climate Change Canada will also require calibration services of newly-purchased pressure sensors. In addition to the normal manufacturer's calibration certificate, ECCC will require that a portion of each order be calibrated at an ISO/IEC 17025 accredited laboratory. The Contractor will be required to complete this additional calibration prior to delivery.

### 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.

### 3. Trade Agreements

The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), and the Canadian Free Trade Agreement (CFTA).

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## 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](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

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

The [2003](#) (2017-04-27) 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 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 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 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.

### 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.

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## 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 (4 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>). 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.

##### 1.1 Electronic Payment of Invoices – Bid

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

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

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

##### 1.2 Exchange Rate Fluctuation

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

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### **1.3 SACC Manual Clauses**

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

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

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

#### 1.1 Technical Evaluation

##### 4.1.1.1 Mandatory Technical Criteria

See Annex D, Technical Evaluation

#### 1.2 Financial Evaluation

Bidders must submit pricing for Section 1, Firm Requirement; Section 2, Optional Atmospheric Pressure Sensors; and section 3 - ISO ISO/IEC 17025 2005 (or equivalent) - for optional purchase Requirement in accordance with Annex B, Basis of Payment, with their bid at bid closing.

Total Evaluated Bid Price will be calculated as follows;

- a) Section 1: Firm Requirement: the Firm unit prices quoted will be multiplied by the firm quantity to arrive at a total price for section 1.
- b) Section 2: Optional Atmospheric Pressure Sensors: For each option year, the unit prices quoted for contract year 2 to 10 will be multiplied by the estimated quantities to arrive at the extended price per year. The total extended price for year 2 to 10 will be added together to achieve the total price for section 2.
- c) Section 3: ISO ISO/IEC 17025 2005 (or equivalent): For each option year, the unit prices quoted for contract year 2 to 10 will be multiplied by the estimated quantities to arrive at the extended price per year. The total extended price for year 2 to 10 will be added together to achieve the total price for section 3.

The totals for Section 1, Section 2 and Section 3 will be added together to determine the Total Evaluated Price.

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

### 2 Basis of Selection

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 will be recommended for award of a contract.

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## PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

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

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

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

### 1 Certifications Required with the Bid

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

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

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

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

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

#### 2.1 Integrity Provisions – Required Documentation

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

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

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](#) website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

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

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Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](#)" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed annex titled Federal Contractors Program for Employment Equity - Certification, before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

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## PART 6 - RESULTING CONTRACT CLAUSES

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

### 1 Security Requirements

1.1 There is no security requirement applicable to the Contract.

### 2 Requirement

2.1 The Contractor must perform the Work in accordance with the Statement of Work at Annex "A".

### 2.2 Optional Goods and/or Services

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

The Contracting Authority may exercise the option at any time before the expiry of the Contract by sending a written notice to the Contractor.

### 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.

#### 3.1 General Conditions

[2010A](#) (2016-04-04), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

#### 3.2 Supplemental General Conditions

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

### 4 Term of Contract

#### 4.1 Period of the Contract

The period of the Contract is from Date of Contract Award to March 31, 2027 inclusive.

#### 4.2 Delivery Date

For Year 1, 20 sensors must be delivered on or before March 31, 2018.

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For Year 2; if the optional quantities are exercised, the optional quantities must be delivered within four (4) months of notification by the Contracting Authority.

For Year 3; if the optional quantities are exercised, the optional quantities must be delivered within four (4) months of notification by the Contracting Authority.

For Year 4; if the optional quantities are exercised, the optional quantities must be delivered within four (4) months of notification by the Contracting Authority.

For Year 5; if the optional quantities are exercised, the optional quantities must be delivered within four (4) months of notification by the Contracting Authority.

For Year 6; if the optional quantities are exercised, the optional quantities must be delivered within four (4) months of notification by the Contracting Authority.

For Year 7; if the optional quantities are exercised, the optional quantities must be delivered within four (4) months of notification by the Contracting Authority.

For Year 8; if the optional quantities are exercised, the optional quantities must be delivered within four (4) months of notification by the Contracting Authority.

For Year 9; if the optional quantities are exercised, the optional quantities must be delivered within four (4) months of notification by the Contracting Authority.

For Year 10; if the optional quantities are exercised, the optional quantities must be delivered within four (4) months of notification by the Contracting Authority.

## **5 Authorities**

### **5.1 Contracting Authority**

The Contracting Authority for the Contract is:

Name: Sandra Leslie

Title: Procurement Specialist

Public Works and Government Services Canada

33 City Centre Drive, Suite 480C

Mississauga, ON. L5B 2N5

Telephone: 905-615-2069

Facsimile: (905) 615-2060

E-mail address: [sandra.leslie2@pwgsc-psgc.gc.ca](mailto:sandra.leslie2@pwgsc-psgc.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.

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## 5.2 Project Authority

The Project Authority for the Contract is: (**will be inserted at contract award**)

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.

## 5.3 Contractor's Representative (To Be Filled Out By bidder)

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Organization: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Facsimile: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

E-mail address: \_\_\_\_\_

## 6. Payment

### 6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit prices, as specified in Annex B, Basis of Payment for a cost of \$ \_\_\_\_\_. 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.

### 6.2 Limitation of Price

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

### 6.3 Multiple Payment

SACC Manual Clause H1001C (2008-05-12) Multiple Payment

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#### **6.4 Electronic Payment of Invoices – Contract**

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

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

#### **7 Invoicing Instructions**

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.

1. Each invoice must be supported by:
  - a) a copy of the release document and any other documents as specified in the Contract;
  - b) the Contract number
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.

#### **8. Certifications and Additional Information**

##### **8.1 Compliance**

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

##### **8.2 Federal Contractors Program for Employment Equity - Default by the Contractor**

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "[FCP Limited Eligibility to Bid](#)" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

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## 9 Applicable Laws

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

## 10 Priority of Documents

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

- (a) the Articles of Agreement;
- (b) the supplemental general conditions, 4001 (2015-04-01), Hardware Purchase, Lease and Maintenance;
- (c) the general conditions, 2010A (2016-04-04), Goods (Medium Complexity);
- (d) Annex A, Statement of Work;
- (e) Annex B, Basis of Payment;
- (f) Annex C, Insurance Requirement;
- (g) the Contractor's bid dated \_\_\_\_\_ (*insert date of bid*) (*If the bid was clarified or amended, insert at the time of contract award: “, as clarified on \_\_\_\_\_” or “, as amended on \_\_\_\_\_ and insert date(s) of clarification(s) or amendment(s)*)

## 11. Insurance – Specific Requirements

The Contractor must comply with the insurance requirements specified in Annex C. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within ten (10) days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. For Canadian-based Contractors, coverage must be placed with an Insurer licensed to carry out business in Canada, however, for Foreign-based Contractors, coverage must be placed with an Insurer with an A.M. Best Rating no less than "A-". The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

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## ANNEX "A" REQUIREMENT

### **ATMOSPHERIC PRESSURE SENSORS (METEOROLOGICAL)**

#### **1. Requirement**

- 1.1 Environment and Climate Change Canada (ECCC), Meteorological Service of Canada (MSC) requires the supply, delivery, and support (availability of parts and servicing) of atmospheric pressure sensors for non-aviation meteorological field observations, in accordance with MSC's technical specifications and user requirements over the next 10 years with the option to purchase additional units. The MSC requires a continuous supply of sensors that can be procured over an extended period of time (up to 10 years) and must operate at all of ECCC's data-logger stations. To ensure instrument continuity and data homogeneity, ECCC intends to use the same pressure sensor model throughout the period.
- 1.2 Environment and Climate Change Canada will also require calibration services of newly-purchased pressure sensors. In addition to the normal manufacturer's calibration certificate, ECCC will require that a portion of each order be calibrated at an ISO/IEC 17025 accredited laboratory. The Contractor will be required to complete this additional calibration prior to delivery.

#### **2. Background**

- 2.1 Environment and Climate Change Canada owns and operates about 500 weather observing stations across Canada, and partners with other organizations to operate about 1000 more. The majority of these stations are automated. These stations serve different purposes such as weather forecasting and climatology measurements. At a principal climatological station, basic climatological elements (temperature, precipitation amount, humidity, wind and atmospheric pressure) are measured on an hourly or more frequent basis. These stations provide sufficient information to make weather - dependent operational decisions and to provide input to most computer models requiring climatological or meteorological data, as well as information for the Canadian national climate archive
- 2.2 Atmospheric pressure is a key variable for specifying the state of the atmospheric system. It varies in space and time and requires a high-density network to observe its variability and extremes.

#### **3. Documentation (Pressure Sensors)**

- 3.1 The Contractor must provide the following documentation in relation to the pressure sensors in hardcopy or portable document format (.pdf) upon delivery.
  - a) Pressure sensor product technical specifications
  - b) All operational requirement information for all delivered pressure sensors.
  - c) User manual(s) explaining the general usage of the pressure sensor; Installation manual and related documentation describing procedures for installing verifying sensor performance, maintaining, troubleshooting and repairing sensors, as applicable.
- 3.2 The Contractor must keep accurate and complete quality-related records pertaining to the product and, upon request, make these records available to Public Services and Procurement Canada (PSPC) Contracting Authority in electronic PDF format.
- 3.3 At the time of delivery, each pressure sensor must be accompanied by certificate of calibration in a hard copy or in an electronic portable document format ("PDF") copy. The calibration certificate must reflect the results of the calibration of each individual sensor. The calibration must be conducted at one temperature point, between 20°C and 25°C. The calibration must be valid for at least one year.

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- 3.4 The Contractor must grant ECCC the right to provide intranet availability of the manuals (including revised documents) to ECCC's staff and to print copies of the manual as needed to meet operational requirements.
- 3.5 Upon Contract award, the Contractor must provide a catalogue (electronic portable document format preferred) of parts, accessories and cable ends with current pricing (to be updated annually or as needed for the duration of the contract at no charge to Canada).
- 3.6 The Contractor must provide operating and user manuals and other related documentation describing procedures for installing, verifying performance, maintaining and repairing the pressure sensor with each new shipment of sensors.
- 3.7 Pressure sensor manuals must be provided in English and French. The manuals must include sufficient text and graphical content to completely, accurately, and clearly provide the information required by ECCC-MSC technical staff to ensure the continuous operation of the pressure sensor in an operational environment.
- 3.8 The first shipment of the pressure sensor must include one hard copy of the manual and one copy in electronic text format. The electronic text format must be in portable document format (.PDF) unless otherwise approved by the Technical Authority.
- The documentation provided with the first shipment may be in English only.
  - The Contractor must supply all the identical documentation in French within six (6) months of contract award. The French documentation may be provided in electronic text format only.
  - Subsequent shipments may have documentation provided in electronic text portable document format (PDF).
  - Calibration certificates may be provided in English or French, as issued from the calibration facility. Where the original language of the certificate is neither English nor French, the information on the certificate must be provided in English or French.

### **3. Documentation (ISO/IEC 17025 Calibration Services)**

- 4.1 In addition to the standard calibration certificate provided with every pressure sensor, a portion of the sensors (to be determined at ordering time) must be calibrated at a facility accredited to ISO/IEC 17025:2005 (or later), or equivalent standard. This additional calibration certificate must be provided with the sensor at time of delivery.
- For the initial order, 100% of the pressure sensors must be accompanied by an ISO (or equivalent) calibration.
  - For subsequent orders, up to 20% of the pressure sensors must be accompanied by an ISO (or equivalent) calibration.
  - Each delivery must be accompanied by a copy of the laboratory's accreditation certificate, valid at the time of the calibration.
- 4.2 If the manufacturer's standard calibration certificate (as supplied in accordance with section 3.3) complies with the ISO 17025 (or equivalent) specification, then the manufacturer's calibration certificate will be deemed to have fulfilled the requirement outlined in section 4.1. The Contractor must, however, include a copy of the manufacturer's ISO (or equivalent) accreditation certificate, valid at the time of the calibration.
- 4.3 A Contractor that is proposing an equivalent standard must include information which:
- designates the name of the substitute certification;
- AND

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(b) provides a compliance statement that the substitute certification is fully interchangeable with, or stronger than, the certification specified;

AND

(c) provides specifications and literature for the substitute certification.

- 4.4 Certifications offered as equivalent will not be considered if:
- (a) the Contractor fails to provide all the information requested to allow the Technical Authority to fully evaluate the equivalency of each substitute certification;
- OR
- (b) the substitute certification fails to meet or exceed the mandatory performance criteria specified in the bid solicitation for that item.
- 4.5 It is recommended that the Contractor verify the acceptance of this equivalency in advance, with the ECCC Technical Authority.

## 5. Technical Support

5.1 The Contractor must provide the following technical support services for the pressure sensor at no charge to Canada during the contract period. The support may be rendered by the OEM(s), the distributor(s) or their technical agent(s).

- 5.2 Pressure sensor upgrades  
The Contractor must provide the ECCC Project Authority with notification of any modifications, improvements and upgrades to the pressure sensor model and the sensor accessories purchased by ECCC, prior to implementing the changes. The associated notification must clearly detail any effects of the change(s) on the performance of the pressure sensor. ECCC Project Authority reserves the right to accept or reject the proposed modifications to the pressure sensor models or accessories being supplied under this contract(s).
- 5.3 Revisions to technical documentation  
The Contractor must advise ECCC of updates to existing documents related to the pressure sensor models or accessories delivered to ECCC. Revised documents must reflect changes to the pressure sensor hardware, software, or to the procedures related to operation, installation, maintenance and repair. An electronic version of the revision in portable document format (.PDF) must be made available to ECCC Project Authority.
- 5.4 Operational Implementation  
A key element of ECCC's network management is "data of known quality". As part of ECCC's implementation plan for the pressure sensor, the Contractor must provide assistance in understanding the operational modes of the pressure sensor and their effect on data quality.
- ## 6. Pressure Sensor Technical Requirements
- 6.1 An atmospheric pressure sensor is designed to measure the force per unit area exerted by the weight of the vertical column of air above the sensor, extending to the outer limit of the atmosphere.
- 6.2 The deliverables must include the pressure sensor, complete with all hardware required to mount the sensor on a vertical wall or mounting plate. A wind shield or external static pressure head for the sensor is not part of this solicitation.

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## 6.3 The pressure sensor must include the following technical specifications:

Item #	Description	Mandatory Technical Specification
1.	<b>Instrument Type</b>	Must be an electronic or aneroid type pressure sensor (mercury-free).
2.	<b>Measurement Range</b>	Must be able to measure and report absolute atmospheric pressure within a minimum range of 800 to 1100 hPa.
3.	<b>Operating Environment</b>  Note: The phrase "without performance deterioration" means that the accuracy requirement in Item 4 of Annex A, Statement of Work, Pressure Sensor Technical Requirements is satisfied, and the device operates without internal faults.  Note: the conditions are additive – i.e., the sensor must operate in an environment that combines all criteria simultaneously.	a) <b>Temperature:</b> The sensor must operate without performance deterioration over the complete range from -40°C to +50°C.  b) <b>Humidity:</b> The sensor must operate without performance deterioration over the complete range from 10% to 100%RH.  c) <b>Corrosion:</b> The sensor must operate without performance deterioration in an outdoor environment with salt, mist or fog. The sensor, its associated modules and cable connectors must comply with one of the following: i) IEC 60068-2-52 severity 1 or 2, or ii) MIL-STD-810G Method 509, or iii) Equivalent standard.
4.	<b>Accuracy: uncertainty</b>  Defined as Root Sum Squares of non-linearity, hysteresis, non-repeatability, calibration and temperature dependence expanded uncertainties of 2 standard deviation (coverage factor of k = 2).	a) The total measurement expanded uncertainty of the sensor system, as defined, must be ≤ 0.3hPa at room temperature (20 to 25°C).  b) The total measurement expanded uncertainty of the sensor system, as defined, must be ≤ 0.6hPa throughout the operating temperature and humidity range specified in requirement 3a and 3b.
5.	<b>Reporting Resolution</b>  Note: Resolution is defined as in the Guide to Meteorological Instruments and Methods of Observation, WMO-No. 8, a quantitative expression of the ability of an indicating device to distinguish meaningfully between closely adjacent values of the quantity indicated.	The resolution of the sensor must be better than or equal to 0.1 hPa.
6.	<b>System Long-term Stability</b>	At room temperature (20 to 25°C), the stability of the sensor (deviation from existing calibration) must be better than or equal to 0.3hPa/year.
7.	<b>System Response Time</b>	a) On changing pressure: the time interval between the instant any pressure change occurs within the proposed sensor's pressure

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		<p>measurement range and the instant when the sensor system outputs the absolute atmospheric pressure within the total measurement uncertainty specified in requirement Item 4 must be less than or equal to 20 seconds.</p> <p>b) On power-up: the time interval between the instant power (at a level specified in requirement item 9) is applied to sensor system and the instant when the sensor system outputs the absolute atmospheric pressure within the total measurement uncertainty specified in requirement Item 4 must be less than or equal to 20 seconds.</p>
8.	<b>Dust and Water Tight Integrity</b>	When fully assembled, the sensor, its associated modules and cable connectors must resist ingress of dust and water, complying with Ingress Protection (IP) Rating Code of at least IP64 (Standard 60529).
9.	<b>Power Requirement - Voltage Range</b>  Note: the provision of a power supply is not included in this procurement. The purchaser will provide their own power supply.	The sensor must operate without performance deterioration when supplied with any voltage from 10 VDC to 15 VDC.
10.	<b>Power Requirement - Current Consumption</b>	The sensor must draw less than 25mA (at 12V DC) average current usage in continuous operational mode.
11.	<b>Inverse polarity protection</b>  Note: the term "must withstand" does not include a requirement that the sensor must continue to operate under these conditions.	The sensor must withstand a sustained inverse polarity power supply voltage of 12 VDC for at least 5 minutes, without damage. Upon correction of this condition, the sensor must return to operation within specifications when powered correctly.
12.	<b>Extreme power protection</b>  Note: "without external intervention" means that no additional operator action is required.	The sensor must return to operation within specifications after a sustained power supply voltage in excess of the normal operating range (10 VDC to 15 VDC) of at least 18 VDC for at least 12 hours, without external intervention.
13.	<b>Output Signal Interfaces</b>	The signal outputs of the sensor must be a minimum of one (1) or more of the following: <ul style="list-style-type: none"><li>i. Analog voltage output, (0-1V DC or 0-5V DC), indicating absolute atmospheric pressure,</li><li>ii. Digital interface SDI-12,</li><li>iii. Digital interface RS-232.</li></ul>
14.	<b>Output Averaging time</b>	If a digital output incorporates time-averaging, the sensor must be capable of providing an average over a period of one minute or less.
15.	<b>Electromagnetic Interference (EMI)/Radio Frequency</b>	The sensor must comply with one of the following:

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	<b>Interference (RFI)</b>	<p>1. EN-61326 for;</p> <ul style="list-style-type: none"><li>• Electrostatic discharge immunity test</li><li>• Radiated, radio-frequency, electromagnetic field immunity test</li><li>• Electrical fast transient/burst immunity test</li><li>• Surge immunity test</li><li>• Immunity test to conducted disturbances induced by radio-frequency fields</li></ul> <p>OR</p> <p>2. EN 61000-4, consisting of</p> <ul style="list-style-type: none"><li>• IEC 61000-4-2 Electrostatic discharge immunity test</li><li>• IEC 61000-4-3 Radiated, radio-frequency, electromagnetic field immunity test</li><li>• IEC 61000-4-4 Electrical fast transient/burst immunity test</li><li>• IEC 61000-4-5 Surge immunity test</li><li>• IEC 61000-4-6 Immunity test to conducted disturbances induced by radio-frequency fields</li></ul> <p>OR</p> <p>equivalent standards.</p>
16.	<b>Survivability</b>	<p>a) <b>Temperature:</b> The sensor must return to operation within specifications after 24 hours exposure (while operating) to temperatures outside of the normal operating range of -40°C to +50°C, down to at least -50°C and up to at least +55°C, without external intervention.</p> <p>b) <b>Thermal Shock:</b> The sensor must return to operation within specifications without external intervention after being exposed to a sudden temperature change from +20°C to -40°C and from +25°C to +50°C. "Sudden" means a temperature change occurring in less than one minute, but lasting at least one hour at the new temperature.</p> <p>c) <b>Power Outage at Cold Temperatures:</b> The sensor must be capable of a cold start from a no-power condition at a temperature of -40°C, without external intervention.</p> <p>d) <b>Storage:</b> The sensor must be capable of operation within specifications when returned to an operational state after un-powered storage for at least 24 hours, over a temperature range down to at least -50°C and up to at least +70°C, without external intervention.</p> <p>e) <b>Vibration:</b> The sensor must operate within specifications after shipment and/or transportation in a factory package as loose cargo. The sensor and package must comply with one of the following:</p> <ul style="list-style-type: none"><li>i) AECTP-400 Edition 3 NATO standard on loose cargo, or</li><li>ii) MIL-STD-202G Method 201, or</li></ul>

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		iii) IEC or EN-60068-2-6, or iv) Equivalent standard
17.	<b>Maintenance</b>  Note: Scheduled preventive maintenance, as set out in the Manufacturer's recommended operation procedures, will be undertaken by the user.  Note: "removing the sensor from service" means that the sensor is disconnected, unmounted, and moved to another location for maintenance.	If field maintenance is required, the interval of the scheduled preventive maintenance recommended by the Manufacturer must be 12 months or longer.  The sensor must not require any intervention for maintaining its normal operation, at intervals shorter than 12 months.  Any recommended field maintenance procedures must be capable of being carried out without removing the sensor from service.
18.	<b>Manufacturer</b>	The sensors must be manufactured at a facility that is registered to ISO 9001:2008 (or later) or a national equivalent quality management system standard. This certification must be maintained throughout the duration of the contract.
19.	<b>Calibration</b>	a) Each unit must be accompanied by a certificate of calibration, confirming that the sensor performance is within specifications. The certificate must include the data on which the confirmation is based. b) If the instrument or any of its subassemblies (e.g. transducers) have specific coefficients required for the derivation of the pressure reading, the certificate must indicate these coefficients.
20.	<b>Dimensions</b>	The size of the sensor, including any enclosure, must be less than or equal to 20cm x 20cm x 20cm.
21.	<b>Weight</b>	The weight of the sensor, including any mounting bracket or enclosure, must be less than or equal to 1.5 kg.
22.	<b>Electrical Safety</b>	If applicable, the sensor and the associated modules must have a Certificate of Compliance issued under the requirements of CAN/CSA-C22.2 at the time of delivery. The certificate can be issued by CSA or another certified body.
23.	<b>Absence of mercury</b>	The sensor system must not contain mercury.

## 7. Shipping and Packaging Instructions

7.1 The Offeror must arrange shipping for all orders to the MSC National Warehouse in Toronto Ontario.

ECCC/MSC

4905 Dufferin Street

Toronto, Ontario, M3H 5T4

Attn: TBA

7.2 Equipment must be packed in a manner suitable for storage and cross-country shipment. The minimum requirement for packaging is as follows:

- Corrugated box with flaps intact.

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- b) Cushioning material of expanded foam, crushed paper, foam peanuts, polystyrene foam or other rigid foam.
  - c) Strong shipping tape or staples.

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## ANNEX "B" BASIS OF PAYMENT

### SECTION 1 - FIRM REQUIREMENT - Delivery Period Date of Contract Award – March 31, 2018

Firm unit pricing in Canadian funds including Canadian customs duties, excise taxes, transportation included, F.O.B. Destination. Applicable Taxes are extra, if applicable.

For the supply and delivery of the complete Atmospheric Pressure Sensor in compliance with the requirement, outlined in Annex A – Statement of Work.

The amount quoted must be in Canadian currency. The Contractor will be paid in all-inclusive firm unit price, Goods and Services Tax (GST) or the Harmonized Sales Tax (HST) is extra, if applicable.

**NOTE: The firm unit price must include the provision of all calibration services ISO/IEC 17025 calibration services.**

1. Firm Quantity	Firm Unit Price	Extended Price
20 units	\$_____	\$_____

MAKE: \_\_\_\_\_

Model: \_\_\_\_\_

**TOTAL PRICE (Section 1) \$\_\_\_\_\_**

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## SECTION 2 - OPTIONAL QUANTITIES

### ATMOSPHERIC PRESSURE SENSORS REQUIREMENT

**NOTE:** Canada may purchase any or all of the optional Atmospheric Pressure Sensors at any time during the period of the contract. The optional Atmospheric Pressure Sensors may be exercised in various quantities during the contract period.

*Annex B includes the Estimated Quantities and Extended Price columns. Upon issuance of the Contract, wording that is italicized will be deleted from Annex B. Estimated quantities are based on forecasted requirements by Environment Canada and do not represent the actual required amounts. When exercising the amendment for each contract year, Environment Canada may order one large batch in the amendment with the possibility of a second smaller batch depending on Environment Canada's operational requirements.*

The amount quoted must be in Canadian currency and must not include any amount for the Goods and Services Tax (GST) or the Harmonized Sales Tax (HST) as may be applicable.

For the Supply and delivery of the complete Atmospheric Pressure Sensor in compliance with the requirement outlined in Annex A – Statement of Work, **excluding the ISO ISO/IEM 17025 standard certificate.**

Contract Year	Estimated Delivery Period	Estimated Quantities	Firm Unit Price	Extended Price
2	April 1, 2018 – March 31, 2019	200 units	\$ _____	\$ _____
3	April 1, 2019 – March 31, 2020	200 units	\$ _____	\$ _____
4	April 1, 2020 – March 31, 2021	200 units	\$ _____	\$ _____
5	April 1, 2021 – March 31, 2022	200 units	\$ _____	\$ _____
6	April 1, 2022 – March 31, 2023	200 units	\$ _____	\$ _____
7	April 1, 2023 – March 31, 2024	150 units	\$ _____	\$ _____
8	April 1, 2024– March 31, 2025	150 units	\$ _____	\$ _____
9	April 1, 2025 – March 31, 2026	150 units	\$ _____	\$ _____
10	April 1, 2026 – March 31, 2027	150 units	\$ _____	\$ _____

**TOTAL PRICE (Section 2) \$ \_\_\_\_\_**

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### SECTION 3 - ISO ISO/IEC 17025 2005 (or equivalent) - for optional purchase

**NOTE:** Canada may purchase any or all of the optional Atmospheric Pressure Sensors at any time during the period of the contract. The optional Atmospheric Pressure Sensors may be exercised in various quantities during the contract period. A portion of the optional Atmospheric Pressure Sensors purchased may request that the sensors be calibrated at a facility accredited to ISO/IEC 17025 2005 (or later), or equivalent standard on an as request basis.

Sensors that are requested ISO/IEC 17025 2005 (or later), or equivalent standard certificate must be conducted in a laboratory with a valid accreditation to ISO/IEC 17025. The certificate must be provided with the sensors.

The amount quoted must be in Canadian currency. The Contractor will be paid in all-inclusive firm unit price for the ISO 17025 (or equivalent) calibration services, Goods and Services Tax (GST) or the Harmonized Sales Tax (HST) is extra, if applicable.

#### ISO ISO/IEM 17025 standard Calibration Services

Contract Year	Estimated Delivery Period	Estimated Quantities	Firm Unit Price	Extended
2	April 1, 2018 – March 31, 2019	40 units	\$_____	\$_____
3	April 1, 2019 – March 31, 2020	40 units	\$_____	\$_____
4	April 1, 2020 – March 31, 2021	40 units	\$_____	\$_____
5	April 1, 2021 – March 31, 2022	40 units	\$_____	\$_____
6	April 1, 2022 – March 31, 2023	40 units	\$_____	\$_____
7	April 1, 2023 – March 31, 2024	30 units	\$_____	\$_____
8	April 1, 2024 – March 31, 2025	30 units	\$_____	\$_____
9	April 1, 2025 – March 31, 2026	30 units	\$_____	\$_____
10	April 1, 2026 – March 31, 2027	30 units	\$_____	\$_____

**TOTAL PRICE (Section 3) \$\_\_\_\_\_**

**Total evaluated Price: Section 1 + Section 2 + Section 3 = Bid Price**

Total of Section 1: \_\_\_\_\_

Total of Section 2: \_\_\_\_\_

Total of Section 3: \_\_\_\_\_

**This amount will be used to calculate Bidders total price for evaluation \$\_\_\_\_\_**

**NOTE: Price is excluding applicable tax**

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## ANNEX "C" Insurance Requirements

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$2,000,000 per accident or occurrence and in the annual aggregate.
2. The Commercial General Liability policy must include the following:
  - a. Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.
  - b. Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
  - c. Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.
  - d. Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
  - e. Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
  - f. Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
  - g. Employees and, if applicable, Volunteers must be included as Additional Insured.
  - h. Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)
  - i. Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.
  - j. Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
  - k. If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.

Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.

- m. Non-Owned Automobile Liability - Coverage for suits against the Contractor resulting from the use of hired or non-owned vehicles.
- n. Litigation Rights: Pursuant to subsection 5(d) of the *Department of Justice Act*, S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

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**For the province of Quebec, send to:**

*Director Business Law Directorate,  
Quebec Regional Office (Ottawa),  
Department of Justice,  
284 Wellington Street, Room SAT-6042,  
Ottawa, Ontario, K1A 0H8*

**For other provinces and territories, send to:**

*Senior General Counsel,  
Civil Litigation Section,  
Department of Justice  
234 Wellington Street, East Tower  
Ottawa, Ontario K1A 0H8*

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.

## ANNEX "D" TECHNICAL EVALUATION

### 1. Mandatory Technical Criteria

At bid closing time, the Bidder must:

- a) Comply with the following Mandatory Requirements; and
- b) The Bidder must provide detailed documentation, in the proposal, supporting the performance and accuracies of the equipment offered, and the methods of demonstrating these. Documentation may include but is not limited to discussion points, equipment specifications, charts and diagrams to support compliance.

Failure on the part of the bidder to meet one (1) or more of the mandatory requirements will result in the proposal being deemed non-compliant and ineligible for further consideration or evaluation.

**Note:** the evaluation process does not cover all of the Mandatory Technical Requirements presented in section 6 of Annex A - Requirement. Section 6 covers what must be delivered by the Contractor. The following table covers what must be provided as part of the bid – Mandatory Technical Requirements are repeated for convenience.

The bidder should indicate the page number and section for each criterion in their proposal.

#### 1. General Requirements

Item No.	Description	Mandatory Requirement	Information required in the bid	Identify where the supporting documentation is located in the bid
1.1	<b>Service History</b>  Note: for the assessment of similar environmental conditions, it is sufficient that the instruments proposed have operated in environments that are likely to experience the range of conditions as stated in Pressure Sensor Technical	<b>Service History:</b> The proposed sensor model must have been deployed - or be based on a sensor which has been deployed - in a field application, in one or more government or commercial organizations, in operating environments similar to those described in Item 3, Operating Environment Annex A, Statement of Work, Pressure Sensor Technical Requirements	The evidence of previous use must be in the form of one or more letters from the organization(s) using the instruments, indicating the number of units used, the period over which the units have been used, and the overall environmental conditions, in terms of temperature and humidity.	PAGE(S) AND/OR SECTION NUMBER: _____  The bid must include contact information for the author of the letter

<p><b>Requirement item 3</b>  <b>(Operating Conditions, Temperature and Humidity)</b>  <b>and not necessarily to have experienced the entire range of conditions.</b>          Specifically, the range of air temperature where the instrument is expected to have operated in the past is -35°C to +35°C. It is not necessary that the entire range be covered by each organization – it is acceptable that different organizations' service history cover different parts of the range.</p>	<p>The service history must cover</p> <ul style="list-style-type: none"> <li>a) at least two years of use by each organization in the five years prior to the posting date of the solicitation.</li> <li>b) total numbers, over all organizations, of at least 100 units.</li> </ul> <p>(email preferred) to confirm its accuracy. Environment and Climate Change Canada may validate the information with the contact identified in the letter only to confirm the information identified in a) and b), with yes or no questions.</p> <p>Where the service history refers to a previous model, based on which the proposed model has been developed, the bidder must provide evidence to show the derivation of the design of the proposed model.</p>
<p><b>2. Mandatory Pressure Sensor Specifications</b></p>	
<p><b>Item Number</b></p>	<p><b>Mandatory Technical Specification to be Evaluated in Bid</b></p> <p>(Note: Item numbers mentioned in this column refer to entries in the table of Pressure Sensor <i>Mandatory Technical Requirements</i>, Section 5 of the Statement of Work.</p>
<p><b>2.1</b></p> <p><b>Instrument Model and Configuration Code</b></p>	<p>Make, model and configuration</p> <p>The Bidder must provide the make, model and configuration of the proposed sensor.</p>
<p>PAGE(S) AND/OR SECTION NUMBER:</p> <p>_____</p>	

		PAGE(S) AND/OR SECTION NUMBER: _____
2.2	<b>Instrument Type</b>  Must be an electronic or aneroid type pressure sensor (mercury-free).	The Bidder must provide evidence in one of the following to identify the principle of operation: 1. Specification Sheet; or 2. User Manual; or 3. Test Reports
2.3	<b>Measurement Range</b>  Must be able to measure and report absolute atmospheric pressure within a minimum range of 800 to 1100 hPa.	The Bidder must provide evidence in one of the following: 1. Specification Sheet; or 2. User Manual; or 3. Test Reports
2.4	<b>Operating Environment</b>  Note: The phrase "without performance deterioration" means that the accuracy requirement in Item 4 of Annex A, Statement of Work, Pressure Sensor Technical Requirements is satisfied, and the device operates without internal faults.  Note: the conditions are additive – i.e., the sensor must operate in an	<p>PAGE(S) AND/OR SECTION NUMBER: _____</p> <p>The Bidder must provide evidence in one of the following:</p> <ul style="list-style-type: none"> <li>a) <b>Temperature:</b> The sensor must operate without performance deterioration over the complete range from -40°C to +50°C.</li> <li>b) <b>Humidity:</b> The sensor must operate without performance deterioration over the complete range from 10% to 100%RH.</li> <li>c) <b>Corrosion:</b> The sensor must operate without performance deterioration in an outdoor environment with salt, mist or fog. The sensor, its associated modules and cable connectors must comply with one of the following:</li> </ul> <p>a) Temperature</p> <ul style="list-style-type: none"> <li>1. Specification sheet; or</li> <li>2. user manual; or</li> <li>3. field data, or</li> <li>4. test reports.</li> </ul> <p>b) Humidity</p> <ul style="list-style-type: none"> <li>1. Specification sheet; or</li> <li>2. user manual; or</li> </ul>

environment that combines all criteria simultaneously.	<ul style="list-style-type: none"><li>i) IEC 60068-2-52 severity 1 or 2, or</li><li>ii) MIL-STD-810G Method 509, or</li><li>iii) Equivalent standard.</li></ul>	<p>Note: the same material may be used to support both a) (Temperature) and b) (Humidity). The material must give a clear indication of the operability of the sensor over the full temperature and humidity ranges specified. Test reports may use data from controlled environments – i.e., outdoor tests are not required.</p> <p>c) Corrosion</p> <p>The bidder must provide written proof (test results or certificate) of compliance with the selected standard or equivalent in the form of a</p> <ul style="list-style-type: none"><li>1. Compliance statement AND</li><li>2. Test reports and/or test results.</li></ul> <p>A bidder that is proposing an equivalent standard must include information which:</p> <ul style="list-style-type: none"><li>1) designates the name of the substitute standard;</li><li>AND</li></ul>

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		<p>2) provides a compliance statement that the substitute standard is fully interchangeable with, or stronger than, the standard specified; and</p> <p>AND</p> <p>3) provides technical specifications and tests procedures for the substitute standard to prove (2).</p> <p>Standards offered as equivalent will NOT be considered if:</p> <p>1) the bid fails to provide all the information requested to allow the Contracting Authority to fully evaluate the equivalency of each substitute standard;</p> <p>OR</p> <p>2) the substitute standard fails to meet or exceed the mandatory performance criteria specified in the bid solicitation for that item</p>	PAGE(S) AND/OR SECTION NUMBER: _____ _____ _____ _____
2.5	<b>Accuracy: uncertainty</b> Defined as Root Sum Squares of non-linearity, hysteresis, non-repeatability, calibration	a) The total measurement expanded uncertainty of the sensor system, as defined, must be $\leq 0.3\text{hPa}$ at room temperature (20 to 25°C).  b) The total measurement expanded	The Bidder must provide evidence in the form of the following: 1) Test Reports/test results. AND

			PAGE(S) AND/OR SECTION NUMBER: _____
2.6	<b>Resolution</b>  Note: Resolution is defined as in the Guide to Meteorological Instruments and Methods of Observation, WMO-No. 8, a quantitative expression of the ability of an indicating device to distinguish meaningfully between closely adjacent values of the quantity indicated.	The resolution of the sensor must be less than or equal to 0.1 hPa.  The Bidder must provide evidence in one of the following:  1. Specification Sheet; or 2. User Manual; or 3. Test Reports  Note: the material provided must clearly indicate that the indicated resolution meets the required definition (WMO—No. 8). A bid that only indicates output resolution without demonstrating that the changes in output are meaningful will be deemed non-compliant.	PAGE(S) AND/OR SECTION NUMBER: _____
2.7	<b>System Long-term Stability</b>	At room temperature (20 to 25°C), the stability of the sensor (deviation from existing calibration) must be better than or equal to 0.3hPa/year.	PAGE(S) AND/OR SECTION NUMBER: _____

			2) Data evidence to support the claim AND 3) Discussion and analyses to explain how the provided material demonstrates model performance.	PAGE(S) AND/OR SECTION NUMBER: _____
2.8	<b>System Response Time</b>	a) On changing pressure: the time interval between the instant any pressure change occurs within the proposed sensor's pressure measurement range and the instant when the sensor system outputs the absolute atmospheric pressure within the total measurement uncertainty specified in requirement Item 4 must be less than or equal to 20 seconds.  b) On power-up: the time interval between the instant power (at a level specified in requirement item 9) is applied to sensor system and the instant when the sensor system outputs the absolute atmospheric pressure within the total measurement uncertainty specified in requirement Item 4 must be less than or equal to 20 seconds.	For each of the requirements, the bidder must provide evidence in one of the following  a) Pressure change: 1. Specification Sheet; or 2. User Manual; or 3. Test Reports  b) On power-up: 1. Specification Sheet; or 2. User Manual; or 3. Test Reports	PAGE(S) AND/OR SECTION NUMBER: _____
2.9	<b>Dust and Water Tight Integrity</b>	When fully assembled, the sensor, its associated modules and cable connectors must resist ingress of dust and water, complying with Ingress Protection (IP) Rating Code of at least IP64 (Standard 60529).	Bidders must provide written proof of compliance with IP64 (Standard 60529) in the form of a 1. Compliance statement	PAGE(S) AND/OR SECTION NUMBER: _____

			AND 2. Test reports and/or test results.	PAGE(S) AND/OR SECTION NUMBER: _____
2.10	<b>Power Requirement - Voltage Range</b> Note: the provision of a power supply is not included in this procurement. The purchaser will provide their own power supply.	The sensor must operate without performance deterioration when supplied with any voltage from 10 VDC to 15 VDC.	The Bidder must provide evidence in one of the following:  1. Specification Sheet; or 2. User Manual; or 3. Test Reports.	PAGE(S) AND/OR SECTION NUMBER: _____
2.11	<b>Power Requirement - Current Consumption</b>	The sensor must draw less than 25mA (at 12V DC) average current usage in continuous operational mode.	The Bidder must provide evidence in one of the following:  1. Specification Sheet; or 2. User Manual; or 3. Test Reports.	PAGE(S) AND/OR SECTION NUMBER: _____
2.12	<b>Inverse polarity protection</b> Note: the term "must withstand" does not include a requirement that the sensor must continue to operate under these conditions.	The sensor must withstand a sustained inverse polarity power supply voltage of 12 VDC for at least 5 minutes, without damage. Upon correction of this condition, the sensor must return to operation within specifications when powered correctly.	The Bidder must provide evidence in one of the following:  1. Specification Sheet; or 2. User Manual; or 3. Test Reports	PAGE(S) AND/OR SECTION NUMBER: _____

		PAGE(S) AND/OR SECTION NUMBER: _____	
2.13	<b>Extreme power protection</b>  Note: "without external intervention" means that no additional operator action is required.	The sensor must return to operation within specifications after a sustained power supply voltage in excess of the normal operating range (10 VDC to 15 VDC) of at least 18 VDC for at least 12 hours, without external intervention.	The Bidder must provide evidence in one of the following: 1. Specification Sheet; or 2. User Manual; or 3. Test Reports
2.14	<b>Output Signal Interfaces</b>	The signal outputs of the sensor must be a minimum of one (1) or more of the following: i. Analog voltage output, (0-1V DC or 0-5V DC), indicating absolute atmospheric pressure, ii. Digital interface SDI-12, iii. Digital interface RS-232.	The Bidder must provide evidence in one of the following: 1. Specification Sheet; or 2. User Manual  Note: acceptable material includes, but is not limited to, wiring diagrams showing interface connections, or user interface documentation indicating how to interpret data outputs.
2.15	<b>Output Averaging time</b>	If a digital output incorporates time-averaging, the sensor must be capable of providing an average over a period of one minute or less.	The Bidder must provide one of the following: 1. Specification Sheet; or 2. User Manual  Note: acceptable material includes, but is not limited to, user interface documentation indicating how to interpret data outputs.

2.16	<b>Electromagnetic Interference (EMI)/Radio Frequency Interference (RFI)</b>	<p>The sensor must comply with one of the following:</p> <p>1. EN-61326 for;</p> <ul style="list-style-type: none"> <li>• Electrostatic discharge immunity test</li> <li>• Radiated, radio-frequency, electromagnetic field immunity test</li> <li>• Electrical fast transient/burst immunity test</li> <li>• Surge immunity test</li> <li>• Immunity test to conducted disturbances induced by radio-frequency fields</li> </ul> <p>OR</p> <p>2. EN 61000-4, consisting of</p> <ul style="list-style-type: none"> <li>• IEC 61000-4-2 Electrostatic discharge immunity test</li> <li>• IEC 61000-4-3 Radiated, radio-frequency, electromagnetic field immunity test</li> <li>• IEC 61000-4-4 Electrical fast transient/burst immunity test</li> <li>• IEC 61000-4-5 Surge immunity test</li> <li>• IEC 61000-4-6 Immunity test to conducted disturbances induced by radio-frequency fields</li> </ul> <p>OR</p> <p>equivalent standards.</p>	<p>The bidder must provide written proof (test results or certificate) of compliance with the selected standard or equivalent in the form of a</p> <ol style="list-style-type: none"> <li>1. Compliance statement AND</li> <li>2. Test reports and/or test results.</li> </ol> <p>A bidder that is proposing an equivalent standard must include information which:</p> <ol style="list-style-type: none"> <li>1) designates the name of the substitute standard; AND</li> <li>2) provides a compliance statement that the substitute standard is fully interchangeable with, or stronger than, the standard specified; and AND</li> <li>3) provides technical specifications and tests procedures for the substitute standard to prove (b).</li> </ol> <p>Standards offered as equivalent will NOT be</p>

			<p>considered if:</p> <p>1) the bid fails to provide all the information requested to allow the Contracting Authority to fully evaluate the equivalency of each substitute standard;</p> <p>OR</p> <p>1) the substitute standard fails to meet or exceed the mandatory performance criteria specified in the bid solicitation for that item.</p>	PAGE(S) AND/OR SECTION NUMBER: _____
2.17	<b>Survivability</b>	a)	<p><b>Temperature:</b> The sensor must return to operation within specifications after 24 hours exposure (while operating) to temperatures outside of the normal operating range of -40°C to +50°C, down to at least -50°C and up to at least +55°C, without external intervention.</p> <p><b>Thermal Shock:</b> The sensor must return to operation within specifications without external intervention after being exposed to a sudden temperature change from +20°C to -40°C and from +25°C to +50°C. "Sudden" means a temperature change occurring in less than one minute, but lasting at least one hour at the new temperature.</p> <p><b>c) Power Outage at Cold Temperatures:</b> The sensor must be capable of a cold start from a no-power condition at a</p>	<p>The Bidder must provide evidence in one of the following:</p> <p>1. Specification Sheet; or 2. User Manual; or 3. Test Reports.</p> <p>Item e):</p> <p>The bidder must provide written proof (test results or certificate) of compliance with the selected standard or equivalent in the form of a</p> <p>1. Compliance statement AND</p>

		temperature of -40°C, without external intervention.	2. Test reports and/or test results.
	d)	<p><b>Storage:</b> The sensor must be capable of operation within specifications when returned to an operational state after un-powered storage for at least 24 hours, over a temperature range down to at least -50°C and up to at least +70°C, without external intervention.</p> <p><b>Vibration:</b> The sensor must operate within specifications after shipment and/or transportation in a factory package as loose cargo. The sensor and package must comply with one of the following:</p> <ul style="list-style-type: none"> <li>i) AECTP-400 Edition 3 NATO standard on loose cargo, or</li> <li>ii) MIL-STD-202G Method 201, or</li> <li>iii) IEC or EN-60068-2-6, or</li> <li>iv) Equivalent standard</li> </ul>	<p>A bidder that is proposing an equivalent standard must include information which:</p> <ol style="list-style-type: none"> <li>1) designates the name of the substitute standard;</li> <li>AND</li> <li>2) provides a compliance statement that the substitute standard is fully interchangeable with, or stronger than, the standard specified; and</li> <li>AND</li> <li>3) provides technical specifications and tests procedures for the substitute standard to prove (2).</li> </ol> <p>Standards offered as equivalent will NOT be considered if:</p> <ol style="list-style-type: none"> <li>1) the bid fails to provide all the information requested to allow the Contracting Authority to fully evaluate the equivalency of each substitute standard;</li> <li>OR</li> <li>2) the substitute standard fails to meet or exceed the mandatory performance</li> </ol>

			PAGE(S) AND/OR SECTION NUMBER: _____
2.18	<b>Maintenance</b>  Note: Scheduled preventive maintenance, as set out in the Manufacturer's recommended operation procedures, will be undertaken by the user.  Note: "removing the sensor from service" means that the sensor is disconnected, unmounted, and moved to another location for maintenance.	If field maintenance is required, the interval of the scheduled preventive maintenance must be 12 months or longer.  The sensor must not require any intervention for maintaining its normal operation, at intervals shorter than 12 months.  Any recommended field maintenance procedures must be capable of being carried out without removing the sensor from service.	The Bidder must provide evidence in one of the following: 1. Specification Sheet; or 2. User Manual; or 3. Discussion point on whether maintenance is 12 months or longer OR whether maintenance is not required.  Note: a list of maintenance requirements where no items mention or imply intervals less than 12 months and no items mention or imply removing the sensor from service would be acceptable proof.
2.19	<b>Manufacturer</b>	The sensors must be manufactured at a facility that is registered to ISO 9001:2008 (or later) or a national equivalent quality management system standard. This certification must be maintained throughout the duration of the contract.	Bidder's must provide a current ISO 9001:2008 (or later) certification, in the form of a valid Registration Certificate, or a national equivalent quality management system standard.  A bidder that is proposing an

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		<p>equivalent standard must include information which:</p> <p>1) designates the name of the substitute certification;</p> <p>AND</p> <p>2) provides a compliance statement that the substitute certification is fully interchangeable with, or stronger than, the certification specified</p> <p>AND</p> <p>3) provides specifications and literature for the substitute certification</p> <p>Certifications offered as equivalent will not be considered if:</p> <p>1) the bid fails to provide all the information requested to allow the Contracting Authority to fully evaluate the equivalency of each substitute certification;</p> <p>OR</p> <p>2) the substitute certification fails to meet or exceed the mandatory performance criteria specified in the bid solicitation for that item.</p>	

		PAGE(S) AND/OR SECTION NUMBER: _____
<b>2.20</b>	<b>Calibration</b>	<p>a) Each unit must be accompanied by a certificate of calibration, confirming that the sensor performance is within specifications. The certificate must include the data on which the confirmation is based.</p> <p>b) If the instrument or any of its subassemblies (e.g. transducers) have specific coefficients required for the derivation of the pressure reading, the certificate must indicate these coefficients.</p>
<b>2.21</b>	<b>Dimensions</b>	<p>The size of the sensor, including any enclosure, must be less than or equal to 20cm x 20cm x 20cm.</p>
<b>2.22</b>	<b>Weight</b>	<p>The weight of the sensor, including any mounting bracket or enclosure, must be less than or equal to 1.5 kg.</p>

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<b>2.23</b>	<b>Absence of mercury</b>	The sensor system must not contain mercury.	The bidder must provide evidence in one of the following to meet the specification: <ol style="list-style-type: none"><li>1. Specification sheet; or</li><li>2. User manual; or</li><li>3. Manufacturer's declaration indicating that the sensor system contains no mercury.</li></ol>
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## **ANNEX "E" to PART 3 OF THE BID SOLICITATION**

### **ELECTRONIC PAYMENT INSTRUMENTS**

As indicated in Part 3, clause 3.1.2, the Bidder must identify which electronic payment instruments they are willing to accept for payment of invoices.

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

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

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

### FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - CERTIFICATION

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

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

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

Complete both A and B.

A. Check only one of the following:

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

A5. The Bidder has a combined workforce in Canada of 100 or more employees; and  
( ) A5.1. The Bidder certifies already having a valid and current Agreement to Implement Employment Equity (AIEE) in place with ESDC-Labour.

**OR**

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

B. Check only one of the following:

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B1. The Bidder is not a Joint Venture.

**OR**

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

Solicitation No. - N° de l'invitation  
K3D33-180515/A  
Client Ref. No. - N° de ref. du client  
K3D33-180515

Am'd. No. - N° de la modif.  
File No. - N° du dossier  
TOR-7-40077

Buyer ID - Id de l'acheteur  
TOR008  
CCC No./N° CCC - FMS No./N° VME

## ANNEX "G" ADDITIONAL CERTIFICATIONS

### 1. Board of Directors

In accordance with Section 1, Integrity Provisions – Offer, Offerors are required to provide a list of their Board of Directors before contract award. Offerors are requested to provide this information in their bid.

Director Name - \_\_\_\_\_

### 2. Procurement Business Number (PBN)

In accordance with Section 2, Procurement Business Number, of the Standard Instructions, Offerors are required to have a Procurement Business Number (PBN) before Standing Offer award.

Procurement Business Number - \_\_\_\_\_

Suppliers may register for a PBN online at [Supplier Registration Information](#). For non-Internet registration, suppliers may contact the Infoline at 1-800-811-1148 to obtain the telephone number of the nearest Supplier Registration Agent.