



<p><b>RETURN BIDS TO: RETOURNER LES SOUMISSIONS À:</b></p> <p>➤ <i>By mail</i></p>	<p><b>Title – Titre</b> Recommendations on Siting Criteria for Air Quality Monitoring Conducted under the National Air Pollution Surveillance (NAPS) Program</p>	
<p>Bid Receiving - Environment Canada / Réception des soumissions – Environnement Canada</p>	<p><b>EC Bid Solicitation No. /SAP No. – N° de la demande de soumissions EC / N° SAP</b> 5000018940</p>	
<p><b><u>Attention</u> : Anthony De Flavis, Procurement Officer, 800 de la Gauchetière Ouest, Bureau 7810 Montreal, Québec H5A 1L9</b></p>	<p><b>Date of Bid solicitation (YYYY-MM-DD) – Date de la demande de soumissions (AAAA-MM-JJ)</b> 2015.12.31</p>	
<p>➤ <i>By e-mail at the following address</i></p> <p><b>Anthony.deflavis@canada.ca</b></p>	<p><b>Bid Solicitation Closes (YEAR-MM-DD) - La demande de soumissions prend fin (AAAA-MM-JJ)</b></p> <p>at – à 2:00 p.m. – 14h00 on – le January 20, 2016 – 20 janvier 2016</p>	<p><b>Time Zone – Fuseau horaire</b></p> <p><i>Eastern standard time/ l'heure de l'est</i></p>
<p><b>BID SOLICITATION DEMANDE DE SOUMISSIONS</b></p>	<p><b>Address Enquiries to - Adresser toutes questions à Anthony De Flavis</b></p>	
<p><b>PROPOSAL TO: ENVIRONMENT CANADA</b></p>	<p><b>Telephone No. – N° de téléphone</b> 514-283-5958</p>	
<p>We offer to perform or provide to Canada the services detailed in the document including any attachments and annexes, in accordance with the terms and conditions set out or referred to in the document, at the price(s) provided.</p>	<p><b>Destination - of Services / Destination des services</b> 335 River Road Ottawa, Ontario K1A 0H3</p>	
<p><b>SOUMISSION À: ENVIRONNEMENT CANADA</b></p>	<p><b>Security / Sécurité</b> <i>There is no security requirement associated with this requirement.</i></p>	
<p>Nous offrons d'effectuer ou de fournir au Canada, aux conditions énoncées ou incluses par référence dans le document incluant toutes pièces jointes et annexes, les services détaillés dans le document, au(x) prix indiqué(s).</p>	<p><b>Vendor/Firm Name and Address - Raison sociale et adresse du fournisseur/de l'entrepreneur</b></p>	
	<p><b>Telephone No. – N° de téléphone</b></p>	<p><b>Fax No. – N° de Fax</b></p>
	<p><b>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)</b></p> <p><b>Signature</b> <span style="float: right;"><b>Date</b></span></p>	

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## **PART 1 – GENERAL INFORMATION**

### **1. Security Requirement**

1.1 There is no security requirement associated with this requirement.

### **2. Statement of Work**

The Contractor must perform the Work as follows:

The Contractor will be provided with all relevant information for monitoring stations reporting to NAPS and other documents, including the SO<sub>2</sub> CAAQS Recommendations Report, Guidance Document on Achievement Determination (GDAD) and other documents that are required to carry out the following work:

**Task 1:** Review monitoring stations currently reporting air pollution information to the NAPS Canada-wide Air Quality Database (CWAQD).

Including location, proximity to major point sources, distance from the next closest stations, scale of representativeness, site type (i.e., Population, Regional Background/Transport, Source Influence – point source or traffic/transportation).

**Task 2:** Analyze annual SO<sub>2</sub> emissions data from the National Pollutant Release Inventory (NPRI) database to identify sources emitting quantities of SO<sub>2</sub> that may cause concentrations in nearby communities to be near or above the proposed CAAQS targets.

- Rank facilities in terms of emissions for most recent year of data, average of previous 3 years. Stack information (if available).
- Characterize height of emissions releases (e.g., high, medium, near ground-level, etc.)

**Task 3:** Identify the closest monitoring station(s) to the facility that reports to the NAPS CWAQD.

- Characterization of the monitoring station in terms of surrounding population, land use, etc.
- Assess SO<sub>2</sub> ambient concentrations and trends in terms of the CAAQS (99<sup>th</sup> percentile of the maximum daily 1-hour concentration)

**Task 4:** In communities with nearby SO<sub>2</sub> point sources where there are no NAPS sites, identify monitoring stations not reporting to the NAPS CWAQD (referred to as “non-NAPS sites”).

- Characterization of the monitoring station in terms of the surrounding population, land use, etc.
- If available, assess SO<sub>2</sub> ambient concentrations and trends in terms of the CAAQS (99<sup>th</sup> percentile of the maximum daily 1-hour concentration)

**Task 5:** Review current Provincial/Territorial/Regional government approaches and criteria for siting monitoring stations impacted by SO<sub>2</sub> sources.

- Summarize the approaches for siting monitoring stations in each jurisdiction.
- Assess similarities/differences in these approaches
- Identify approaches that best address monitoring objectives for CAAQS reporting.

**Task 6:** Propose criteria and tools to identify optimal site locations.

- Thresholds for annual SO<sub>2</sub> facility-based emissions that could put an area out of compliance with the proposed CAAQS ambient targets.
- Spatial concentration gradients surrounding SO<sub>2</sub> sources.
- Impacted populations.
- Key factors to consider for locating sites for monitoring SO<sub>2</sub> influenced by emission sources.
- Information and tools that can be used to identify optimal sites locations for SO<sub>2</sub> monitoring.
- Cost effective options including leveraging existing non-NAPS sites.

Optional tasks:

**Task 7:** Incorporate information developed for the point source influenced siting criteria into the draft NAPS QA/QC Guidelines section on Network Design.

**Task 8:** Review draft NAPS QA/QC 2015 document.

Copy-edit the rest of the document and amend as necessary to ensure that content and style are consistent and up-to-date with the information included in Task 7.

### **Start and End Date**

The duration of this contract will be from contract award to March 31, 2016

### **Deliverables**

All deliverables and successful completion of the project are subject to the acceptance and/or approval of the Departmental Representative.

The deliverables for this project include:

- i. A first draft of the report in MS Word format by February 24, 2016.
- ii. A second draft that incorporates comments and input received from the Departmental Representative by March 23, 2016.
- iii. A final document that incorporates final comments from the Departmental Representative. Electronic copies of the final version in MS Word and supporting materials delivered to the Departmental Representative by March 31, 2016.

### **3. 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 of receipt of the results of the bid solicitation process. The debriefing may be 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 PWGSC *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

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

The 2003 (2015-07-03) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

The standard instructions 2003 are modified as follows:

#### **Under “Text” at 02:**

**Delete:** “Procurement Business Number”

**Insert:** “Deleted”

#### **At Section 02 Procurement Business Number**

**Delete:** In its entirety

**Insert:** “Deleted”

#### **At Section 05 Submission of Bids, Subsection 05 (2d):**

**Delete:** In its entirety

**Insert:** “send its bid only to Environment Canada (EC) as specified on page 1 of the bid solicitation or to the address specified in the bid solicitation;”

#### **At Section 06 Late Bids:**

**Delete:** “PWGSC”

**Insert:** “Environment Canada”

#### **At Section 07 Delayed Bids:**

**Delete:** “PWGSC”

**Insert:** “Environment Canada”

#### **At Section 08 Transmission by Facsimile, Subsection 08 (1):**

**Delete:** In its entirety

**Insert:** “Bids may be submitted by facsimile if specified in the bid solicitation.”

#### **At Section 12 Rejection of Bid, Subsection 12 (1) a. and b.:**

**Delete:** In their entirety

**Insert:** “Deleted”

#### **At Section 17 Joint Venture, Subsection 17 (1) b.:**

**Delete:** “the Procurement Business Number of each member of the joint venture,”

**Insert:** “Deleted”

#### **At Section 20 Further Information, Subsection 20 (2):**

**Delete:** In its entirety

**Insert: "Deleted"**

## **2. Submission of Bids**

- 2.1** Bids must be submitted to Environment Canada (EC) at the address and by the date, time and place indicated on page 1 of the bid solicitation.

## **3. Former Public Servant – Competitive Bid**

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPS, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

### **Definitions**

For the purposes of this clause, "former public servant" is any former member of a department as defined in the *Financial Administration Act*, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the *Public Service Superannuation Act* (PSSA), R.S., 1985, c.P-36, and any increases paid pursuant to the *Supplementary Retirement Benefits Act*, R.S., 1985, c.S-24 as it affects the PSSA. It does not include pensions payable pursuant to the *Canadian Forces Superannuation Act*, R.S., 1985, c.C-17, the *Defence Services Pension Continuation Act*, 1970, c.D-3, the *Royal Canadian Mounted Police Pension Continuation Act*, 1970, c.R-10, and the *Royal Canadian Mounted Police Superannuation Act*, R.S., 1985, c.R-11, the *Members of Parliament Retiring Allowances Act*, R.S., 1985, c.M-5, and that portion of pension payable to the *Canada Pension Plan Act*, R.S., 1985, c.C-8.

### **Former Public Servant in Receipt of a Pension**

As per the above definitions, is the Bidder a FPS in receipt of a pension? **Yes ( ) No ( )**

If so, the Bidder must provide the following information, for all FPS in receipt of a pension, as applicable:

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2012-2 and the Guidelines on the Proactive Disclosure of Contracts.

#### **Work Force Adjustment Directive**

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **Yes ( ) No ( )**

If so, the Bidder must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks;
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

#### **4. Enquiries - Bid Solicitation**

All enquiries must be submitted in writing to the Contracting Authority no later than three (3) 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.

## **5. 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.

## **6. Basis for Canada's Ownership of Intellectual Property**

Environment Canada has determined that any intellectual property rights arising from the performance of the Work under the resulting contract will belong to Canada, on the following grounds:

the main purpose of the contract, or of the deliverables contracted for, is to generate knowledge and information for public dissemination;

## **PART 3 – BID PREPARATION INSTRUCTIONS**

### **1. Bid Preparation Instructions**

The bidders must clearly and separately show that they meet the mandatory requirements.

#### **You must complete Annex C.**

Bidders must submit their financial proposals in accordance with the Basis of Payment. The firm total price must include a breakdown and cover the entire work. The total amount of the Goods and Services Tax (GST) or Harmonized Sales Tax (HST), if applicable, must be shown separately.

#### **You must complete Annex B and include your financial proposal**

## **PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

Bids will be assessed in accordance with the entire requirement of the bid solicitation including the mandatory technical and financial criteria.

### **2. Mandatory requirements**

The bidder must provide a signed statement of the mandatory technical requirements presented in Annex C.

A negative answer to one of the mandatory requirements will result in rejection of the proposal without further consideration.

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared admissible. The successful bidder must achieve a score of 75% or better in the categories of the Evaluation Criteria listed in the appendix and the contract will be awarded to the firm obtaining the lowest compliant cost per point proposal (determined by dividing the bid price by the total points achieved in the evaluation of the bidder's proposal).

## **PART 5 - RESULTING CONTRACT**

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

**Title:** Recommendations on Siting Criteria for Air Quality Monitoring Conducted under the National Air Pollution Surveillance (NAPS) Program

### **1. Security Requirement**

There is no security requirement applicable to this Contract.

### **2. Statement of Work**

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

### **3. Standard Clauses and Conditions**

All clauses and conditions identified in the Contract by number, date and title are set out in the PWGSC *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**

2010B (2015-07-03), General Conditions - Professional Services (Medium Complexity), as modified below, apply to and form part of the Contract.

General conditions 2010B is modified as follows:

#### **At Section 12 Transportation Costs**

**Delete:** In its entirety

**Insert:** "Deleted"

#### **At Section 13 Transportation Carriers' Liability**

**Delete:** In its entirety.

**Insert:** "Deleted"

#### **At Section 18, Confidentiality:**

**Delete:** In its entirety

**Insert:** "Deleted"

Insert Subsection: "35 Liability"

“The Contractor is liable for any damage caused by the Contractor, its employees, subcontractors, or agents to Canada or any third party. Canada is liable for any damage caused by Canada, its employees or agents to the Contractor or any third party. The Parties agree that no limitation of liability or indemnity provision applies to the Contract unless it is specifically incorporated in full text in the Articles of Agreement. Damage includes any injury to persons (including injury resulting in death) or loss of or damage to property (including real property) caused as a result of or during the performance of the Contract.”

**A. For professional services requirements where the deliverables are copyrightable works:**

**At Section 19 Copyright**

**Delete:** In its entirety

**Insert:**

1. In this section:  
"Material" means anything that is created or developed by the Contractor as part of the Work under the Contract, and in which copyright subsists.  
"Background Information" means all Intellectual Property that is not Foreground Information that is incorporated into the Work or necessary for the performance of the Work and that is proprietary to or the confidential information of the Contractor, its subcontractors or any other third party;  
"Foreground Information" means all Intellectual Property first conceived, developed, produced or reduced to practice as part of the Work under the Contract;
2. Material that is created or developed by the Contractor as part of the Work under the Contract belongs to Canada. The Contractor must incorporate the copyright symbol and either of the following notices, as appropriate: © Her Majesty the Queen in right of Canada (year) or © Sa Majesté la Reine du chef du Canada (année).
3. At the request of the Contracting Authority, the Contractor must provide to Canada, at the completion of the Work or at such other time as the Contracting Authority may require, a written permanent waiver of moral rights as defined in the [Copyright Act](#), R.S., 1985, c. C-42, in a form acceptable to the Contracting Authority, from every author that contributed to the Work. If the Contractor is an author, the Contractor permanently waives the Contractor's moral rights.
4. All Intellectual Property Rights in the Material belongs to Canada as soon as they come into existence. The Contractor has no right in or to any such Intellectual Property except any right that may be granted in writing by Canada.
5. The Contractor also grants to Canada a non-exclusive, perpetual, irrevocable, worldwide, fully-paid and royalty-free license to use the Background Information to the extent that this information is required by Canada to exercise its rights to use the Material. This license cannot be restricted in any way by the Contractor providing any form of notice to the contrary, including the wording on any shrink-wrapped license attached to any deliverable.

**4. Period of the Contract**

The period of the Contract is from date of Contract to March 31, 2016 inclusive.

**5. Authorities**  
**5.1 Contracting Authority**

The Contracting Authority for the Contract is:

Name: Anthony De Flavis  
Title: Procurement Officer  
Environment Canada  
Finance Branch  
Address: 105 McGill st. 5<sup>th</sup> floor, Montréal, QC H2Y 2E7  
Telephone: 514-283-3332  
Facsimile: 514-283-4439  
E-mail address: Anthony.deflavis@canada.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**

The Technical Authority for the Contract is:

Name: Dennis Herod  
Environment Canada  
Address: 335 River Road, Ottawa, Ontario K1A 0H3  
Telephone: 613-949-0149  
E-mail address: dennis.herod@ec.gc.ca

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.

**6. Proactive Disclosure of Contracts with Former Public Servants**

By providing information on its status, with respect to being a former public servant in receipt of a Public Service Superannuation Act (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with Contracting Policy Notice: 2012-2 of the Treasury Board Secretariat of Canada.

**7. Payment**

**7.1 Basis of Payment**

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price indicated in Annex B; for services specified in

Annex "A" providing during the contract period. The goods and Services Tax is extra, if applicable.

## **8 Invoicing Instructions**

### **8.1 Single Payment**

- (a) The Contractor must submit invoices according to the Appendix "A" in accordance with the section entitled "Invoice Submission" of the general conditions.
- (b) Canada will pay the Contractor upon completion and delivery of the Work in accordance with the payment provisions of the Contract if:
  - (i) 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;
  - (ii) all such documents have been verified by Canada;
  - (iii) the Work delivered has been accepted by Canada.

## **9. Applicable Laws**

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

## ANNEX A

### STATEMENT OF WORK Recommendations on Siting Criteria for Air Quality Monitoring Conducted under the National Air Pollution Surveillance (NAPS) Program

#### Purpose

The purpose of this work is to develop recommendations on criteria for siting the various types of ambient air quality monitoring conducted under the National Air Pollution Surveillance (NAPS) Program including point source influenced monitoring.

#### Background

Environment Canada in collaboration with the provincial, territorial and regional monitoring agencies operates and manages the NAPS ambient monitoring network across Canada. The purpose of this Program is to coordinate the collection of air quality data from existing provincial, territorial and municipal air quality monitoring networks and provide accurate and long-term air quality data of a uniform standard in a unified Canada-wide air quality database.

The following national monitoring objectives have been established for the NAPS program:

1. provide air pollution information to the public in a timely manner;
2. track and report on progress on achievement of air quality objectives or standards;
3. support for research studies to assess air pollution impacts on health and ecosystems;
4. support for air quality modelling, mapping, forecasting and advisory programs;
5. support for emission verification and emission reduction strategy development;
6. measure representative pollutant concentrations in populated areas across the country and enable the determination of long-term trends in air pollutant concentrations;
7. measure the highest representative pollutant concentrations in populated areas;
8. measure regional background concentrations and transport of pollutants from regional sources including trans-boundary;
9. measure air pollution upwind/downwind of urban areas;
10. support regional, national and international air quality agreements and initiatives;
11. support the development and evaluation of new monitoring technologies and the application of national quality assurance programs;

Three basic types of air quality monitoring are conducted under the NAPS program to address these objectives:

- A. General Population Exposure
- B. Regional Background/Transport
- C. Source Influenced
  - i. Point Source
  - ii. Traffic/transportation

To clarify the nature of the link between general monitoring objectives, site types, and the physical location of a particular monitor, the concept of spatial scale of representativeness is defined. The challenge in locating monitors is to correctly match the spatial scale represented by the air sample with the spatial scale most appropriate for the monitoring site type, air pollutant to be measured, and the monitoring objective. Thus, spatial scale of

representativeness is described in terms of the physical dimensions of the air parcel nearest to a monitoring site throughout which actual pollutant concentrations are reasonably similar. The scales of representativeness of most interest for air quality monitoring are defined as follows:

- i. Micro scale—defines the concentrations in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
- ii. Middle scale—defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometer.
- iii. Neighborhood scale—defines concentrations within some extended area of the city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers range. The neighborhood and Urban scales listed below have the potential to overlap in applications that concern secondarily formed or homogeneously distributed air pollutants.
- iv. Urban scale—defines concentrations within an area of city-like dimensions, on the order of 4 to 50 kilometers. Within a city, the geographic placement of sources may result in there being no single site that can be said to represent air quality at this scale. Sites outside urban areas that represent dimensions between neighbourhood and regional are classified as urban scale.
- v. Regional scale—defines usually a rural area of reasonably homogeneous geography without large sources, and extends from tens to hundreds of kilometers.

The siting of an air monitoring instrument strongly influences the quality of monitoring data. The siting criteria specified should be followed as closely as possible to ensure uniform data collection.

In October 2012, the Canadian Council of Ministers of the Environment (CCME), with the exception of Quebec, agreed to begin implementing a new Air Quality Management System (AQMS). One of the key elements of the new system is the Canadian Ambient Air Quality Standards (CAAQS) for selected air pollutants.

A multi-stakeholder CAAQS Development and Review Working Group (CDRWG) was established in 2014 to develop recommendations to CCME regarding CAAQS and management levels for sulphur dioxide (SO<sub>2</sub>) for 2020 and 2025.

Despite a large decrease in SO<sub>2</sub> emissions over the past 15 years, existing levels exceed the proposed CAAQS ambient target levels at a number of sites across the country with levels being highest near industrial sources of SO<sub>2</sub>.

A subset of monitoring stations operated under the NAPS program is located in communities impacted by emissions from point sources. Although these stations may not have been specifically sited to measure the impact of emissions from point sources, they have been identified/classified as point source-influenced stations due to the high concentrations of SO<sub>2</sub> recorded at these sites.

Provinces and territories have laws and regulations to control emissions from industrial facilities and other sources. They do this largely through operating permits that are issued to individual facilities, which stipulate emission limits and other environmental protection requirements, including air quality monitoring requirements. These monitoring sites are usually established in close proximity to the facilities and are required as part of their certificates of approval (COA). The criteria for siting monitors vary by jurisdiction and is/was mainly guided by the requirements

set under the CWS for PM<sub>2.5</sub> and ozone. A few jurisdictions report air quality data from sites operated by industry to the Canada-wide Air Quality Database (CWAQD) but most do not.

One of the main goals of this report will be to identify locations where populations may be exposed to levels above or close to the CAAQS ambient targets by proposing criteria and tools that can be used to determine areas impacted by an SO<sub>2</sub> emission source.

Information from this report will be used to update the NAPS Quality Assurance/Quality Control (QA/QC) Guidelines. The latest NAPS QA/QC Guidelines were published in 2004. The NAPS QA/QC Guidelines are intended to assist technical personnel at NAPS agencies develop and implement a quality system for their ambient air monitoring program. This guidance is part of a quality management system designed to ensure that the NAPS Program provides data of sufficient quality to meet the program's objectives and ensure that it is implemented consistently across the country.

### **Objectives**

The objective of this document will be to provide guidance on which source-influenced stations are appropriate for reporting on achievement of the CAAQS for SO<sub>2</sub> and to provide recommendations on criteria for siting ambient monitors for new or re-located source influenced monitoring stations. The report will also include recommendations on siting criteria for other types of air quality monitoring conducted under the NAPS program as specified above.

### **Tasks**

The Contractor will be provided with all relevant information for monitoring stations reporting to NAPS and other documents, including the SO<sub>2</sub> CAAQS Recommendations Report, Guidance Document on Achievement Determination (GDAD) and other documents that are required to carry out the following work:

**Task 1:** Review monitoring stations currently reporting air pollution information to the NAPS Canada-wide Air Quality Database (CWAQD).

Including location, proximity to major point sources, distance from the next closest stations, scale of representativeness, site type (i.e., Population, Regional Background/Transport, Source Influence – point source or traffic/transportation).

**Task 2:** Analyze annual SO<sub>2</sub> emissions data from the National Pollutant Release Inventory (NPRI) database to identify sources emitting quantities of SO<sub>2</sub> that may cause concentrations in nearby communities to be near or above the proposed CAAQS targets.

- Rank facilities in terms of emissions for most recent year of data, average of previous 3 years. Stack information (if available).
- Characterize height of emissions releases (e.g., high, medium, near ground-level, etc.)

**Task 3:** Identify the closest monitoring station(s) to the facility that reports to the NAPS CWAQD.

- Distance in kilometers from facilities.
- Characterization of the monitoring station in terms of surrounding population, land use, etc.
- Assess SO<sub>2</sub> ambient concentrations and trends in terms of the CAAQS (99<sup>th</sup> percentile of the maximum daily 1-hour concentration)

**Task 4:** In communities with nearby SO<sub>2</sub> point sources where there are no NAPS sites, identify monitoring stations not reporting to the NAPS CWAQD (referred to as “non-NAPS sites”).

- Characterization of the monitoring station in terms of surrounding population, land use, etc.
- If available, assess SO<sub>2</sub> ambient concentrations and trends in terms of the CAAQS (99<sup>th</sup> percentile of the maximum daily 1-hour concentration)

**Task 5:** Review current Provincial/Territorial/Regional government approaches and criteria for siting monitoring stations impacted by SO<sub>2</sub> sources.

- Summarize the approaches for siting monitoring stations in each jurisdiction.
- Assess similarities/differences in these approaches
- Identify approaches that best address monitoring objectives for CAAQS reporting.

**Task 6:** Propose criteria and tools to identify optimal site locations.

- Thresholds for annual SO<sub>2</sub> facility-based emissions that could put an area out of compliance with the proposed CAAQS ambient targets.
- Spatial concentration gradients surrounding SO<sub>2</sub> sources.
- Impacted populations.
- Key factors to consider for locating sites for monitoring SO<sub>2</sub> influenced by emission sources.
- Information and tools that can be used to identify optimal sites locations for SO<sub>2</sub> monitoring.
- Cost effective options including leveraging existing non-NAPS.

Optional tasks:

**Task 7:** Incorporate information developed for the point source influenced siting criteria into the draft NAPS QA/QC Guidelines section on Network Design.

**Task 8:** Review draft NAPS QA/QC 2015 document.

Copy-edit the rest of the document and amend as necessary to ensure that content and style are consistent and up-to-date with the information included in Task 7.

### **Deliverables**

All deliverables and successful completion of the project are subject to the acceptance and/or approval of the Departmental Representative.

The deliverables for this project include:

- iv. A first draft of the report in MS Word format by February 24, 2016.
- v. A second draft that incorporates comments and input received from the Departmental Representative by March 23, 2016.
- vi. A final document that incorporates final comments from the Departmental Representative. Electronic copies of the final version in MS Word and supporting materials delivered to the Departmental Representative by March 31, 2016.

**ANNEX B**

**FINANCIAL PROPOSAL/ BASIS OF PAYMENT**

<i>Deliverables</i>	<i>Payment</i>	<i>Schedule</i>
<i>Deliverables 1-6</i>	<i>60% of the total cost of the contract</i>	<i>March 31, 2016</i>
<i>Deliverables 7-8</i>	<i>40% of the total cost of the contract</i>	<i>March 31, 2016</i>

BIDDERS MAY NOT MODIFY THIS FORM

Name of Bidder: \_\_\_\_\_

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

\_\_\_\_\_

Telephone number: \_\_\_\_\_

Fax number: \_\_\_\_\_

Company's GST no.: \_\_\_\_\_

RBQ no.: \_\_\_\_\_

Price Table

1	<b>Firm / Total Price (excluding applicable taxes)</b>	<b>_____ \$</b>
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I/we are empowered to bind the company / partners / sole owner / consortium.

\_\_\_\_\_  
Name Signature

\_\_\_\_\_  
Title Date

**ANNEX C  
MANDATORY REQUIREMENTS**

1	The Contractor certifies that it agrees to supply, at all times, qualified staff required to perform the required services as set out in Annex "A."
2	The maximum contract cost for the project cannot exceed a maximum of 65,000.00\$ (excluding GST)

Note: Environment Canada reserves the right to require copies of proof of insurance or certification or any other document demonstrating that the bidder meets the mandatory requirements during the solicitation period, prior to awarding the contract or at any time during the term of the contract.

The Contractor hereby certifies that all of its declarations relating to the mandatory requirements are true and accurate.

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Name of Company (Contractor)

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Name and Title of Signatory

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Signature and Date