

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Travaux publics et Services gouvernementaux
Canada
Place Bonaventure, portail Sud-Est
800, rue de La Gauchetière Ouest
7^{ème} étage
Montréal
Québec
H5A 1L6
FAX pour soumissions: (514) 496-3822

REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION

**Proposal To: Public Works and Government
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Title - Sujet Wind Profiler Radar System	
Solicitation No. - N° de l'invitation K8D22-160171/B	Date 2015-10-15
Client Reference No. - N° de référence du client K8D22-16-0171	
GETS Reference No. - N° de référence de SEAG PW-\$MTA-405-13504	
File No. - N° de dossier MTA-5-38124 (405)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-11-25	
Time Zone Fuseau horaire Heure Normale du l'Est HNE	
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: Séguin, Caroline	Buyer Id - Id de l'acheteur mta405
Telephone No. - N° de téléphone (514) 496-3734 ()	FAX No. - N° de FAX (514) 496-3822
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Environment Canada Weather Station FSB Weather Office Iqaluit (Nunavut)	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

Travaux publics et Services gouvernementaux Canada
Place Bonaventure, portail Sud-Est
800, rue de La Gauchetière Ouest
7^{ème} étage
Montréal
Québec
H5A 1L6

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

Solicitation No. - N° de l'invitation

K8D22-160171/B

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur

mta405

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

K8D22-16-0171

File No. - N° du dossier

MTA-5-38124

CCC No./N° CCC - FMS No/ N° VME

This bid solicitation cancels and supersedes previous bid solicitation number K8D22-160171/A dated September 10th, 2015 with a closing of October 20th, 2015 at 2:00pm (Eastern Daylight Time).

All documents submitted as part of the bid solicitation number K8D22-160171/A will not be considered for the bid solicitation number K8D22-160171/B.

See attached document.

This bid solicitation cancels and supersedes previous bid solicitation number K8D22-160171/A dated September 10th, 2015 with a closing of October 20th, 2015 at 2:00pm (Eastern Daylight Time). All documents submitted as part of the bid solicitation number K8D22-160171/A will not be considered for the bid solicitation number K8D22-160171/B.

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PART 1 - GENERAL INFORMATION

1.1 Security Requirements

There is no security requirement related to this requirement.

1.2 Statement of Work

The Work to be performed is detailed under Annex A "Statement of Work" of the resulting contract clauses.

1.3 Comprehensive Land Claims Agreement(s) Beneficiaries

This procurement is subject to the following Comprehensive Land Claims Agreement(s) (CLCAs): Nunavut Land Claims Agreement. However, this procurement is not set aside under this CLCA.

1.4 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.

1.5 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), and the Agreement on Internal Trade (AIT).

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

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

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

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

"Subsection 3 of Section 01 Integrity Provisions - Bid of the Standard Instructions 2003 incorporated by reference above is deleted in its entirety and replaced with the following:

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

Delete: 60 days
Insert: 120 days

2.2 Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

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

2.2.2 Improvement of Requirement During Solicitation Period

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least ten (10) days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than seven (7) calendar days before the bid closing date. Enquiries received after that time may not be answered.

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

2.4 Applicable Laws

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

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

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

Section I: Technical Bid: three (3) hard copies and three (3) soft copies;

Section II: Financial Bid: two (2) hard copy and two (2) soft copies;

Section III: Certifications: one (1) hard copy

If there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the hard copy will have priority over the wording of the soft copy.

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that Bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, Bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Applicable Taxes must be shown separately.

3.1.1 Exchange Rate Fluctuation

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

Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Technical Evaluation

4.1.1.1 Mandatory Technical Criteria

See "Attachment 1 – Technical Criteria"

4.1.1.2 Point Rated Technical Criteria

See "Attachment 1 – Technical Criteria"

4.1.2 Financial Evaluation

SACC Manual Clause [A0222T](#) (2014-06-26), Evaluation of Price

See « Annex B – Basis of Payment ». All prices proposed in this Basis of Payment will be evaluated and will take part in the decision process for contract award.

4.2 Basis of Selection

4.2.1 Highest Combined Rating of Technical Merit and Price

1. To be declared responsive, a bid must:
 - a. comply with all the requirements of the bid solicitation; and
 - b. meet all mandatory criteria; and
 - c. obtain the maximum number of points overall for the technical evaluation criteria which are subject to point rating. The rating is performed on a scale of 130.
2. Bids not meeting (a) or (b) or (c) will be declared non-responsive.
3. The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 15% for the technical merit and 85% for the price.
4. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 15%.

5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 85%.
6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
7. Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract.

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 15/85 ratio of technical merit and price, respectively. The total available points equals 130 and the lowest evaluated price is \$45,000 (45).

Basis of Selection - Highest Combined Rating Technical Merit (15%) and Price (85%)

		Bidder 1	Bidder 2	Bidder 3
Overall Technical Score		115/130	89/130	92/130
Bid Evaluated Price		\$55,000.00	\$50,000.00	\$45,000.00
Calculations	Technical Merit Score	$115/130 \times 15 = 13.27$	$89/130 \times 15 = 10.27$	$92/130 \times 15 = 10.62$
	Pricing Score	$45/55 \times 85 = 69.55$	$45/50 \times 85 = 76.50$	$45/45 \times 85 = 85$
Combined Rating		82.82	86.77	95.62
Overall Rating		3rd	2nd	1st

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. 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.

5.1 Certifications Required with the Bid

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

5.1.1 Declaration of Convicted Offences

As applicable, pursuant to subsection Declaration of Convicted Offences of section 01 of the Standard Instructions, the Bidder must provide with its bid, a completed [Declaration Form](http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-eng.html>), to be given further consideration in the procurement process.

5.2 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.

5.2.1 Integrity Provisions – List of Names

Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Bidder.

Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s).

Bidders bidding as societies, firms or partnerships do not need to provide lists of names.

5.2.2 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](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from [Employment and Social Development Canada \(ESDC\) - Labour's](#) website.

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

PART 6 - RESULTING CONTRACT CLAUSES

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

6.1 Security Requirements

6.1.1 There is no security requirement applicable to this Contract.

6.2 Statement of Work

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

6.3 Standard Clauses and Conditions

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

6.3.1 General Conditions

[2030](#) (2015-09-03), General Conditions – Higher complexity (Goods), apply to and form part of the Contract.

6.3.2 Supplemental General Conditions

The following supplemental general conditions apply to and form part of the Contract:

[4001](#) (2015-04-01), Hardware Purchase, Lease and Maintenance

[4003](#) (2010-08-16), Licensed Software

6.4 Term of Contract

6.4.1 Delivery Date

All the deliverables must be received on or before September 30th, 2016.

6.4.2 Option to Extend the Contract

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to five (5) additional one (1) year periods under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least fifteen (15) calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Caroline Séguin
Supply Officer
Public Works and Government Services Canada
Acquisitions Branch, Quebec Region
800 de la Gauchetière Street West, Suite 7300, Montreal (Quebec), H5A 1L6

Telephone: (514) 496-3734
Facsimile: (514) 496-3822
E-mail address: Caroline.Z.Seguin@tpsgc-pwgsc.gc.ca

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

6.5.2 Project Authority

The Project Authority for the Contract is:

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

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

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

6.5.3 Contractor's Representative

The Contractor's representative is:

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

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

6.6 Payment

6.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price 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.

6.6.2 Limitation of Price

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

6.6.3 Single Payment

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

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

6.6.4 SACC Manual Clauses

SACC Manual clause [C2000C](#) (2007-11-30), Taxes – Foreign-based Contractor

6.7 Invoicing Instructions

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

6.8 Certifications

6.8.1 Compliance

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing additional information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the additional information, or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

6.9 Applicable Laws

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

6.10 Priority of Documents

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

- (a) the Articles of Agreement;
- (b) the supplemental general conditions:
[4001](#) (2015-04-01), Hardware Purchase, Lease and Maintenance
[4003](#) (2010-08-16), Licensed Software
- (c) the general conditions [2030](#) (2015-09-03), General conditions – Higher complexity (Goods);
- (d) Annex A, Statement of Work;
- (e) Annex B, Basis of Payment;
- (f) the Contractor's bid dated _____.

6.11 SACC Manual Clauses

[A9068C](#) (2010-01-11), Government Site Regulations
[B1006C](#) (2014-06-26), Condition of material – Contract
[B1501C](#) (2006-06-16), Electrical equipment
[G1005C](#) (2008-05-12), Insurance

6.12 Optional goods and/or Services

The Contractor grants to Canada the irrevocable option to acquire the goods, services or both described at Annex "A" 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.

ANNEX "A"

STATEMENT OF WORK

1. Introduction

Environment Canada (EC) is interested in acquiring a wind profiler radar for research and meteorological observation purposes.

The prime purpose is to study atmospheric winds in order to monitor meteorological conditions near the Iqaluit airport (65° N). This instrument will complement a research network of meteorological instruments at Iqaluit in order to improve weather forecasting and conduct satellite validation. The instrument may also be used for physical field studies of high impact weather in both warm season and cold season environments, as well as to investigate the synergy with Doppler LIDAR wind measurements at Iqaluit, and to develop radar applications in Arctic regions.

2. Technical Terms

ASCII:	File type format
EC:	Environment Canada
LIDAR:	Light detection and ranging (instrument)
NetCDF:	File type format
RASS:	Radio acoustic sounding system
SNR:	Signal-to-noise ratio
WMO:	World meteorological organization

3. Overall Performance Requirements

The wind profiler radar must be required to operate autonomously (no operator required) and from a location not easily accessible by an operator. It must operate continuously in extreme weather conditions (Canada's high Arctic) year-round.

The wind profiler radar must utilize existing technology tailored to Arctic conditions.

The wind profiler radar must measure all wind velocity and direction parameters and include data quality parameters. This must include vertical profiles of horizontal wind speed and direction (u, v), vertical wind velocity, and a measure of signal strength (e.g. signal to noise ratio, SNR).

4. Mandatory Technical Specifications

The complete wind profiler radar must meet each of the specifications outlined in the following sections:

4.1 General Specifications

The wind profiler radar must be securable to prevent damage and theft of the antennas and electronics. The maximum size of the radar can be 13 m x 13 m. The Contractor must be able to safely install the instrument in a terrain with permafrost (Arctic) and construct a fenced area for this purpose, along with any mounts and cables necessary to secure the radar and its electronics from blizzards and extreme winds. Environment Canada will provide the Internet connection. The Contractor must construct a shelter for computer equipment. This shelter must offer adequate environmental conditions to maintain the performance of the computer equipment. The dimensions of the shelter and fenced area may vary, depending on the wind profiler radar proposed by the Contractor. It must be large enough to house the computer and supporting electronics.

The term "system" used in the following sections refers to the entire radar system, including, but not limited to, antennas, computer equipment, cables and shelter.

4.2 System Performance Must Include:

Item	Description of item
1	Must have extended weatherproofing to protect the system against rain and wind .
2	Temporal sampling rate: must provide measurements and data product(s) at least every 30 minutes.
3	Vertical wind requirements: must be capable to measure winds from a height of 300 to 8000 m with a wind profile vertical resolution ≤ 250 m and with a wind component (u, v) accuracy $\leq \pm 1$ m/s.
4	System must operate during all seasons: must operate under temperatures from -40°C to $+30^{\circ}\text{C}$, signal quality not affected by frost, and operations not affected by heavy snow accumulation.
5	Must be fully automated and remotely controlled.
6	Radar system must be scalable (can increase the number of antenna elements) to enable potential future upgrades of the system.
7	Radar system must be compatible with a Radio Acoustic Sounding System (RASS) as a potential future upgrade to the system .
8	Must have an operating power of 120 or 240 V AC.

4.3 Detailed Radar Requirements – Radar Antenna/Transmitter Must Include:

Item	Description of item
1	Must have an operating frequency of 449 Hz.
2	Must have sufficient gain, aperture, and power to provide wind profiles up to at least 8 km.
3	Must have a beamwidth $\leq 8^{\circ}$.

4.4 Detailed Radar Requirements – Radar Signal Processing Unit Must Include:

Item	Description of item
1	Must have system monitoring and status reporting and graphical display software ⁽¹⁾ .
2	Must have a processing and communications computer(s) that runs Windows 7 (or newer) or Linux.
3	Must have ≥ 200 GB storage capacity.
4	Must be able to start/stop the radar and perform basic system maintenance (check disk usage, download data, delete and edit files) either remotely or locally.
5	Must have capacity to sustain power to the computer in case of power failure for 20 minutes.
6	Must be able to transmit data off-site when telecommunications is available to the equipment.

⁽¹⁾This includes, but is not limited to: temperature monitoring of the system, signal monitoring, and essential parameters check to ensure the radar is functioning properly in real-time.

4.5 Detailed Radar System Requirements – Radar Products Must Include:

Item	Description of item
1	Must provide necessary software to read output data.
2	Must provide data products with a frequency of 30 minutes (or better) of: time-height cross sections of wind vectors, moments data, vertical profiles of horizontal wind speed and direction and vertical wind velocity, spectral width, and signal-to-noise ratio for each measurement. The measured power spectra from which other parameters are measured must be displayable and recorded when desired.
3	Data processing must minimize contamination from isolated birds and airplanes.

5. Optional Radar Features

Item	Specifications
1	Wind profile vertical resolution less than 250 m.
2	Antennae beam should be capable of pointing in more than 5 directions.
3	Peak transmitter power.
4	Extended weatherproofing to protect the system at temperatures below -40°C

6. Other Terms and Conditions

6.1 Output File Format

While not a mandatory requirement, it is preferred that the final output file format is compliant with the World Meteorological Organization (WMO) data file format standards (if any). Otherwise, ASCII, and NetCDF file formats are preferred where applicable.

6.2 Transportability/Housing

The wind profiler radar must be delivered and installed complete with antenna unit, radar processor, modulator and interface unit, all power amplifier and supply components, equipment rack, antenna stand, ground mount, operational software, user manual, and necessary securable measures (e.g., antenna base is secured into the rock bed/permafrost, fencing around the entire radar and weatherproofed shelter(s) for electronics/computer(s)).

6.3 Documentation

The contractor must provide at the time of delivery, in English, user manuals/guides relating to the instrument's installation, calibration and alignment, operation, troubleshooting, and data processing. Hard copies and soft copies must be delivered.

The Contractor must provide when required, in English, all necessary circuit diagrams, details of calibration checks and acceptable limits. The user software must document the underlying algorithms used in signal, data and product processing. The output data formats must be documented for decoding for external processing. Maintenance procedures must be documented.

6.4 Training

The Contractor must provide, at the time of delivery, all necessary training to EC staff on-site to operate the radar, retrieve its data, and perform basic maintenance, along with training documentation in English. The hands-on training should take at most five days on-site (Iqaluit) for a small group (4-8) of EC researchers and operators.

6.5 Installation

The Contractor must install all components of the radar system (including structures and/or components required to secure the radar system) upon delivery. The contractor is responsible for all travel expenses, accommodation, and miscellaneous expenses incurred by his employees and subcontractors. The contractor is responsible for shipping all tools and equipment required in order to perform the installation in a remote location under harsh environmental conditions (the Arctic).

The setup and installation must be accomplished within two weeks (14 days) of the delivery.

6.6 Options and Replacement Parts Price Listing

The Contractor must provide pricing for long lead time items, spare parts or high failure parts valid for three years within twenty (20) working days of contract award.

The Contractor must provide pricing for optional extended warranty, service plans, and maintenance for the next five years.

6.7 Statement of Business

The bidder must provide at least one (1) example in which the proposed wind profiler radar model has been purchased by a government department/agency, university or commercial organization.

The bidder must also provide the name and contact information of the organization stated, and a reference/contact person.

6.8 Project Schedule

Item #	Project Milestone	Estimated Date
1	Contract award	December 4, 2015
2	Project kick-off meeting in Canada: design and construction plan finalized (preferably in person, but teleconference is accepted)	January 6, 2016
3	Radar equipment (electronics, antennas, computer(s), etc.) and equipment required for site preparation (fencing, shelter, etc.) delivered and received in Iqaluit	September 2 , 2016
4	Assembly and installation of fully-functional radar system in Iqaluit completed	September 9, 2016
5	On-site training completed	September 16, 2016
6	Site Acceptance Test (SAT) passed; witnessed by customer	September 23, 2016

6.9 Deliverables

6.9.1 Hardware / Software

Item #	Description	Quantity	Date
1	Fully operational wind profiler radar system, including the items specified in the above sections, in accordance with the specifications mentioned in Annex A, section 4.	1	September 1, 2016 or earlier

6.9.2 Documentation

Item #	Description	Quantity	Date
1	Kickoff meeting report, describing the agreed-upon radar design and construction schedule	1	January 6, 2016
2	User guide (English) for the radar system including documentation of the data formats	2	September 1, 2016
3	Training documentation (English)	2	September 1, 2016
4	Circuits, diagrams, details of calibration checks and acceptable limits	To be determined	Upon request
5	Maintenance procedures	2	September 1, 2016

6.10 Delivery

All deliverables must be in accordance with best commercial standards. The Contractor must deliver and install the product in satisfaction of the contract requirements to:

Environment Canada Weather Station
FSB Weather Office
Iqaluit, NU

ANNEX "B"

BASIS OF PAYMENT

All prices proposed in this Basis of Payment will be evaluated and will take part in the decision process for contract award.

1. Baseline

Item #	Description	Price
1	One (1) securable wind profiler radar system compliant with the specifications mentioned in the Contract, including a user guide and maintenance procedures	\$ _____
2	Assembly and installation of the system on site	\$ _____
3	On-site acceptance tests	\$ _____
4	Transportation and delivery *	\$ _____
5	On-site training (including required documentation)	\$ _____
6	Warranty (12 months after delivery and acceptance of the work)	INCLUDED
TOTAL (taxes excluded)		\$ _____

Delivery:

Environment Canada Weather Station
FSB Weather Office
Iqaluit, Nunavut

* Note: Shipping materials to Iqaluit via sealift can take 1-2 months (or more) depending on weather.

2. Options

2.1 Optional radar features

Item #	Description	Price (taxes excluded)
1	Wind profile vertical resolution less than 250 m.	\$ _____
2	Antennae beam should be capable of pointing in more than 5 directions.	\$ _____
3	Peak transmitter power.	\$ _____
4	Extended weatherproofing to protect the system at temperatures below -40°C	\$ _____
TOTAL (taxes excluded)		\$ _____

2.2 Services after delivery

Item #	Description	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
1	Warranty	INCLUDED	\$ _____	\$ _____	\$ _____	\$ _____
2	Service plan & Maintenance	\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
TOTAL PER YEAR (taxes excluded)		\$ _____	\$ _____	\$ _____	\$ _____	\$ _____
TOTAL (taxes excluded)				\$ _____		

PRIX TOTAL (1+2.1+2.2) (taxes en sus)	\$ _____
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ATTACHMENT 1
TECHNICAL CRITERIA

1. Mandatory Technical Criteria

The bid presented by the supplier must meet all the following mandatory criteria in order to be considered responsive:

# Item	Description of item	Reference in bid (page and/or section number)
1	Must have extended weatherproofing to protect the system against rain and wind.	
2	Temporal sampling rate: must provide measurements and data product(s) at least every 30 minutes.	
3	Vertical wind requirements: must be capable to measure winds from a height of 300 to 8000 m with a wind profile vertical resolution ≤ 250 m and with a wind component (u, v) accuracy $\leq \pm 1$ m/s.	
4	System must operate during all seasons: must operate under temperatures from -40°C to $+30^{\circ}\text{C}$, signal quality not affected by frost, and operations not affected by heavy snow accumulation.	
5	Must be fully automated and remotely controlled.	
6	Radar system must be scalable (can increase the number of antenna elements) to enable potential future upgrades of the system.	
7	Radar system must be compatible with a Radio Acoustic Sounding System (RASS) as a potential future upgrade to the system.	
8	Must have an operating power of 120 or 240 V AC.	
9	Must have an operating frequency of 449 Hz.	
10	Must have sufficient gain, aperture, and power to provide wind profiles up to at least 8 km.	
11	Must have a beamwidth $\leq 8^{\circ}$.	
12	Must have system monitoring and status reporting and graphical display software ⁽¹⁾ .	
13	Must have a processing and communications computer(s) that runs Windows 7 (or newer) or Linux.	
14	Must have ≥ 200 GB storage capacity.	
15	Must be able to start/stop the radar and perform basic system maintenance (check disk usage, download data, delete and edit files) either remotely or locally.	
16	Must have capacity to sustain power to the computer in case of power failure for 20 minutes.	
17	Must be able to transmit data off-site when telecommunications is available to the equipment.	
18	Must provide necessary software to read output data.	
19	Must provide data products with a frequency of 30 minutes (or better) of: time-height cross sections of wind vectors, moments data, vertical profiles of horizontal wind speed and direction and vertical wind	

	velocity, spectral width, and signal-to-noise ratio for each measurement. The measured power spectra from which other parameters are measured must be displayable and recorded when desired.	
20	Data processing must minimize contamination from isolated birds and airplanes.	
21	Duration of training must be maximum five (5) days.	
22	The setup and installation must be accomplished within two weeks (14 days) of the delivery.	
23	The bidder must provide at least one (1) example in which the proposed wind profiler radar model has been purchased by a government department/agency, university or commercial organization.	
24	The bidder must also provide the name and contact information of the organization stated, and a reference/contact person.	

⁽¹⁾This includes, but is not limited to: temperature monitoring of the system, signal monitoring, and essential parameters check to ensure the radar is functioning properly in real-time.

2. Rated Technical Criteria *

# Item	Description of criteria	Rating scale **	Reference in bid (page and/or section number)
1	Wind profile vertical resolution less than 250 m	250 m = 0 pt >200 m to <250 m = 10 pts >150 to 200 m = 20 pts >100 to 150 m = 30 pts ≤100 m = 40 pts	
2	Antennae beam should be capable of pointing in more than five (5) directions	5 directions or less: 0 pt More than 5 directions: 20 pts	
3	Peak transmitter power	< 0 to 2 kW = 10 pts > 2 to 4 kW = 20 pts > 4 to 6 kW = 30 pts > 6 to 8 kW = 40 pts > 8 kW = 50 pts	
4	Extended weatherproofing to protect the system at temperatures below -40°C	- 45°C to < - 40°C = 15 pts < - 45°C = 20 pts	

* There is no minimum number of points for the rated criteria. A zero rating to rated criteria will not result in the non-compliance of the bid.

** « pt » = Point ; « pts » = Points

3. Evaluation Grid

The bids considered to be compliant only will be evaluated based on the following grid:

	Supplier _____
Technical merit rate (see Table in Annex C, Section 2)	
Price proposed (including options)	
Points for technical merit	$[\text{Technical merit rate} / 100] * 15$
Points for price proposed	$[\text{Lowest price proposed amongst suppliers} / \text{Price proposed}] * 85$
TOTAL POINTS	