

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

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

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

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

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

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

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

Comments - Commentaires

Title - Sujet Ka-Band Radar	
Solicitation No. - N° de l'invitation KM175-131119/A	Date 2014-04-30
Client Reference No. - N° de référence du client KM175-131119	
GETS Reference No. - N° de référence de SEAG PW-\$TOR-015-6597	
File No. - N° de dossier TOR-3-36173 (015)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2014-06-10	Time Zone Fuseau horaire Eastern Daylight Saving Time EDT
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: Abela, Aaron	Buyer Id - Id de l'acheteur tor015
Telephone No. - N° de téléphone (905) 615-2061 ()	FAX No. - N° de FAX (905) 615-2060
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

Vendor/Firm Name and Address

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

Issuing Office - Bureau de distribution

Public Works and Government Services Canada
Ontario Region
33 City Centre Drive
Suite 480
Mississauga
Ontario
L5B 2N5

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

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Amd. No. - N° de la modif.

File No. - N° du dossier

TOR-3-36173

Buyer ID - Id de l'acheteur

tor015

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

KM175-131119

CCC No./N° CCC - FMS No/ N° VME

See attached ...

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PART 1 - GENERAL INFORMATION

1. Introduction

The bid solicitation is divided into six parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Requirement, the Basis of Payment, and any other annexes.

2. Summary

For the supply and delivery of a Mobile/Transportable Ka-Band Dual Polarization Radar System for research and operational emergency support operations to Environment Canada, Meteorological Services Canada (MSC), at Downsview, Ontario. The radar will be used to study the intensity and spatial variability of light snowfall and for consideration as future operational radar in regions such as the Arctic. It will also be used for hierarchical statistical validation of radar-gauge and radar-satellite retrieval of snowfall intensity and snow on the ground. The system may also be used for physical field studies of high impact weather in both warm season and cold season environments.

Delivery is required by October 31, 2014. A 1 year warranty is required.

MSC also requires the option to purchase up to three (3) one-year extended warranty packages, which may be exercised at any time during the period of the contract.

The contract period will be from the Date of Contract Award to October 31, 2018.

Bidders must submit a list of names, or other related information as need, pursuant to section 01 of Standard Instructions 2003.

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).

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 [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 (2014-03-01) 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: sixty (60) days
Insert: ninety (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.

4. Enquiries - Bid Solicitation

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

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

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.

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 (3 hard copies)
Section II: Financial Bid (1 hard copy)
Section III: Certifications (1 hard copy)

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

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

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

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

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

Section I: Technical Bid

In their technical bid, bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability in a thorough, concise and clear manner for carrying out the work.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

Section II: Financial Bid

1.1 Bidders must submit their financial bid in accordance with the Annex "B". The total amount of Applicable Taxes must be shown separately.

Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

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

1.1.1. Mandatory Technical Criteria

See Annex "D" Evaluation Criteria

1.1.2 Point Rated Technical Criteria

See Annex "D" Evaluation Criteria

1.2 Financial Evaluation

1.2.1 Mandatory Financial Criteria

The bidder must complete and submit with its bid, Annex "B" – Basis of Payment, in Canadian funds, applicable Taxes excluded, FOB destination, transportation included, Canadian customs duties and excise taxes included.

1.2.2 The price used in the evaluation will be the Total Evaluated Price, which is calculated as follows:

- i) Total Evaluated Price is the sum of the Firm Prices of Sections 1.0. and the sum of the annual price for optional extended warranty of the three one-year periods in Section 2.1 listed under Annex "B" Basis of Payment.

1.2.3 The price of the bid will be evaluated in Canadian Dollars, Applicable Taxes excluded, FOB destination, Transportation (delivery) cost, Canadian customs duties and excise taxes included.

2. Basis of Selection – Highest Combined 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

The rating is performed on a scale of 146 points.

2. Bids not meeting (a) or (b) will be declared non-responsive.
3. The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 60% for the technical merit and 40% for the price.
4. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 60%.
5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 40%.
6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
7. Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract.

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 60/40 ratio of technical merit and price, respectively. The total available points equals 135 and the lowest evaluated price is \$45,000 (45).

Basis of Selection - Highest Combined Rating Technical Merit (60%) and Price (40%)

		Bidder 1	Bidder 2	Bidder 3
Overall Technical Score		115/135	89/135	92/135
Bid Evaluated Price		55,000	50,000	45,000
Calculations	Technical Merit Score	$115/135 \times 60 = 51.11$	$89/135 \times 60 = 39.56$	$92/135 \times 60 = 40.89$
	Pricing Score	$45/55 \times 40 = 32.73$	$45/50 \times 40 = 36.00$	$45/45 \times 40 = 40.00$
Combined Rating		83.84	75.56	80.89
Overall Rating		1st	3rd	2nd

PART 5 - CERTIFICATIONS

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

The certifications provided by bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default in carrying out any of its obligations under the Contract, if any certification made by the Bidder is found to be

untrue, whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

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

1. Certifications Required Precedent to Contract Award

1.1 Integrity Provisions - Associated Information

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

1.2 Federal Contractors Program for Employment Equity - Bid Certification

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

2. Additional Certifications Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

2.1 Rate or Price Certification (if applicable)

C0001T (2007-05-25) Price Certification - Foreign Suppliers

2.2 OEM Certification

2.2.1 Any Bidder that is not the Original Equipment Manufacturer (OEM) for every item of hardware proposed as part of its bid is required to submit the OEM's certification regarding the Bidder's authority to provide and maintain the OEM's hardware, which must be signed by the OEM (not the Bidder). No Contract will be awarded to a Bidder who is not the OEM of the hardware it proposes to supply to Canada, unless the OEM certification has been provided to Canada. Bidders are requested to use the OEM Certification Form included with the bid solicitation. Although all the contents of the OEM Certification Form are required, using the form

itself to provide this information is not mandatory. For Bidders/OEMs who use an alternate form, it is in Canada's sole discretion to determine whether all the required information has been provided. Alterations to the statements in the form may result in the bid being declared non-responsive.

2.2.2 If the hardware proposed by the Bidder originates with multiple OEMs, a separate OEM certification is required from each OEM.

2.2.3 For the purposes of this bid solicitation, OEM means the manufacturer of the hardware, as evidenced by the name appearing on the hardware and on all accompanying documentation.

2.3 Software Publisher Certification and Software Publisher Authorization

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

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

2.3.3 In this bid solicitation, "Software Publisher" means the owner of the copyright in any software included in the bid, who has the right to license (and authorize others to license/sub-license) its software products.

PART 6 - RESULTING CONTRACT CLAUSES

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

1. Requirement

The Contractor must provide one (1) complete and fully functional mobile/transportable K-Band Dual Polarization Radar in accordance with the specifications detailed in the "Requirement" at Annex "A".

1.1 Optional Goods and/or Services

The Contractor grants to Canada the irrevocable option to acquire the goods, services or both described at "Requirement" Annex "A" and "Basis of Payment" Annex "B" 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.

2. 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.

2.1 General Conditions

2030 (2014-3-01), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

2.2 Supplemental General Conditions

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

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

4004 (2013-04-25) Supplemental General Conditions – Maintenance and Support Services for Licensed Software, apply to and form part of the Contract.

3. Security Requirement

There is no security requirement applicable to this Contract.

4. Term of Contract

4.1 Period of the Contract

The period of the Contract is from Date of Contract Award to October 31, 2018.

4.2 Delivery Date

Delivery for firm requirement must be received on or before delivery dates according to Delivery Schedule in Annex "B", but must be no later than October 31, 2014.

Delivery for optional service must begin immediately after the expiry date of the initial 12-month warranty after receipt of the contract amendment exercising the option.

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5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Aaron Abela
Title: Supply Specialist
Public Works and Government Services Canada
Acquisitions Branch
Address: 33 City Centre Drive Suite 480C
Mississauga, Ontario L5B 2N5
Telephone: (905) 615-2061
Facsimile: (905) 615-2060
E-mail address: Aaron.Abela@pwgsc.gc.ca

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

5.2 Project Authority

The Project Authority for the Contract is:

(TBA at time of contract award)

Name: _____
Environment Canada
Address: 4905 Dufferin Street
Toronto, Ontario
M3H 5T4
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

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

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

6. Payment

6.1 Basis of Payment - Firm Prices

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" for a total cost of \$_____ insert the amount at contract award). Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

6.2 Multiple Payments

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

6.3 Limitation of Price

C6000C (2011-05-16) Limitation of Price

6.4 Advance Payment

For Basis of Payment Section 2 – Extended Warranty only.

H3028C (2010-01-11) Advance Payment

6.5 Inspection and Acceptance

The Project Authority is the Inspection Authority. All reports, deliverable items, documents, goods and all services rendered under the Contract are subject to inspection by the Inspection Authority or representative. Should any report, document, good or service not be in accordance with the requirements of Annexes A and B and to the satisfaction of the Inspection Authority, as submitted, the Inspection Authority will have the right to reject it or require its correction at the sole expense of the Contractor before recommending payment.

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.

8. Certifications

8.1 Compliance

Compliance with the certifications and related documentation provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification, provide the related documentation 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.

9. Applicable Laws

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

10. Priority of Documents

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

- (a) the Articles of Agreement;
- (b) the supplemental general conditions 4001 (2013-01-28) Supplemental General Conditions - Hardware Purchase, Lease and Maintenance;
- (c) the supplemental general conditions 4003 (2010-08-16) Supplemental General Conditions - Licensed Software;
- (d) the supplemental general conditions 4004 (2013-04-25) Supplemental General Conditions – Maintenance and Support Services for Licensed Software;
- (e) the general conditions 2030 (2014-03-01), General Conditions - Higher Complexity - Goods;
- (f) Annex A, Requirement;
- (g) Annex B, Basis of Payment;
- (h) the Contractor's bid dated _____.

11. Foreign Nationals (Foreign Contractor)

SACC Manual clause A2001C (2006-06-16) Foreign Nationals (Foreign Contractor)

or

11. Foreign Nationals (Canadian Contractor)

SACC Manual Clause A2000C (2006-06-16) Foreign Nationals (Canadian Contractor)

12. Insurance

SACC Manual clause G1005C (2008-05-02) Insurance

13. SACC Manual Clause

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A9068C (2010-01-11) Government Site Regulations

ANNEX A

REQUIREMENT

1.0 General Requirements

Environment Canada is interested in acquiring a mobile and transportable Ka-band radar system with compact trailer for research purposes.

The prime purpose is to study the intensity and spatial variability of light snowfall and for consideration as a future operational radar in regions such as the Arctic where the precipitation is light. It will also be used to conduct hierarchical statistical validation of radar-gauge and radar-satellite retrieval of snowfall intensity and snow on the ground. The system may also be used for physical field studies of high impact weather in both warm season and cold season environments.

2.0 General Requirements

2.1 General Technical Specifications

The Mobile/Transportable Ka Band Doppler Radar system with compact trailer must be controllable with an on-site operator and with an operator at a remote location.

The system must operate in mid-latitude (Toronto, Ontario, Canada area) and in harsh northern Canadian environments (e.g. the Arctic).

The radar must produce all data parameters (moments and time series) including derived data quality parameters. These parameters include total reflectivity, ground clutter corrected reflectivity, radial velocity and spectral width.

The radar must include either Linux or Windows operating system for the data acquisition and radar control computer, there is a stronger preference for the Linux operating system.

A road worthy compact trailer is required for the system. It is envisioned that the trailer will be attached and hitched to an EC vehicle for transportation. It is also envisioned, that the complete system may be disassembled for transport via a shipping container or via other means.

2.1 Transportability and Housing

Environment Canada is planning to locate the radar at various sites across Canada for extended periods of time (several weeks to months). Transportability of this system must be allowed for under traffic and highway acts in all provinces and territories within Canada.

The radar system must be delivered complete with a mountable compact trailer that can be hitched to a small truck. The trailer must weigh less than 3 tons.

It is expected that the setup and teardown of the radar can be accomplished in a few hours.

2.2 Trailer

The Contractor must provide trailers that are roadworthy by Canadian Standards.

2.3 Documentation

The Contractor must provide at the time of delivery, in English, documentation that will be provided to include all necessary circuit diagrams, details of calibration checks and acceptable limits. The user software documentation must describe the underlying algorithms used in signal, data and product processing. The output data formats must be documented for decoding for external processing.

2.4 Training

The Contractor must provide training for EC staff (minimum 5 people and minimum 3 days at EC premises). This training must include a demonstration of the hardware and software, including calibration. Travel and accommodation for contractor personnel will be covered by the contractor, and at no charge to Canada. Training must be completed within 60 days after delivery and on-site acceptance.

2.5 Factory Acceptance

Inspection and factory acceptance will be performed by EC Project Authority at the Contractor's facility prior to delivery. Calibration and system performance must be demonstrated by the Contractor (factory acceptance) and performance must meet the specifications.

2.6 Delivery and On-Site Acceptance

The overall system must be delivered to Environment Canada where it will undergo a full acceptance test carried out by the contractor under the supervision of the EC team. It must also include installation of system components, a demonstration of the transportability and setup procedures. Acceptance of the system will only occur once all specifications have been met. The warranty period will commence upon final acceptance by Environment Canada.

2.7 Replacement Parts Price Listing

The Contractor must provide a price list for long lead time items, spare parts or high failure parts within thirty (30) days after contract award.

3.0 Technical Requirements

3.1 Overall Performance Requirements

The Mobile Ka-Band Doppler Dual Polarization Weather Radar System must operate both with an on-site operator and from a remote location. It must operate in harsh Canadian environments (e.g. the Arctic, east coast Canada).

The radar must measure all parameters (moments) including derived data quality parameters. This must include ground clutter rejection metrics (clutter to signal ratios), signal quality index, reflectivity, reflectivity corrected for ground clutter, radial velocity, correlation coefficient, differential phase, differential reflectivity, etc.

4.0 Technical Specifications

Deliverable: The Complete Ka-Band Radar System must meet each of the specifications outlined below:

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System Performance must meet the following specifications:

Item	Description
1	Must have a range resolution minimum 60 m
2	Must be able to detect distributed targets at minimum of -60 dBZ at a range of 1 km and at a range resolution of 60m.
3	Must have a duty cycle of 1:500
4	Must transmit horizontal polarization
5	Must operate with 120V/60Hz power
6	Must include an Uninterruptible Power Supply to condition the power.
7	The radar system must be able to operate between -30°C to +45°C and be able to automatically shut down and to be secured in strong winds (> 25 m /s)

Detailed Radar System Requirements – Transmitter must meet the following specifications:

Item	Description
1	Must operate in the Ka-band (35.1 – 35.3GHz)
2	Must generate pulses with 100, 200, 400 nanosec widths
3	Must generate pulses at 1500 to 10000 Hz

Detailed Radar System Requirements - Antenna Subsystem must meet the following specifications:

Item	Description
1	Must have a Cassegrain 1.2 m diameter dish Antenna sub-system with a gain of 50 dB and the first sidelobe of -23 dB
2	The Antenna Sub-system must be able to scan in elevation from -1 to 92° relative to the horizon.
3	The Antenna Sub-system must meet azimuthal scanning of 10°/s
4	The Antenna Sub-system must meet a position accuracy of $\pm 0.1^\circ$
5	The Antenna Sub-system must be able to be disassembled for packing, shipping and storage.
6	The Antenna must have a cross-polarization isolation of -25 dB or better

Detailed Radar System Requirements – Receiver must meet the following specifications:

Item	Description
1	Must have a noise figure of 3.5 dB
2	Must have a linear dynamic range of 84 dB
3	Must sample at 14 bit at the Intermediate Frequency.

Detailed Radar System Requirements - Signal Processor must meet the following specifications:

Item	Description
1	Must have 1000 range gates
2	Must have a range bin resolution of 15 m
3	Must use Fast Fourier Transform signal processing
4	Must have frequency domain clutter filters
5	Must have 4 clutter filters
6	Clutter filters must be capable of 40 dB suppression.

Detailed Radar System Requirements – Radar Control and Configuration must meet the following specifications:

Item	Description
1	Must have maintenance, calibration, Built-in Test Equipment and utilities that include each of the following capabilities and functionality: <ul style="list-style-type: none">• Manual radar operation;• a fault monitor capability;• time series sampling;• auto-calibration functions; and• on-site real-time displays
2	Must have PPI, RHI, Volume, Stare scanning modes.

4.7 Detailed Radar System Requirements – Radar Products must meet the following specifications:

1	Must generate Z_h (both total and ground clutter corrected reflectivity), V (radial velocity), W (spectral width), and time series I/Q data
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2	Must generate Moments and the Time Series
3	Must display PPI (all moments), RHI and time series data in real-time.

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ANNEX B

BASIS OF PAYMENT

The prices are firm in Canadian dollars, the Goods and Services Tax or the Harmonized Sales Tax excluded. FOB destination, transportation included, Packaging, Transportation costs and the Canadian customs duties and excise taxes included, and in accordance with Annex A, Requirement.

All delivery must be made on or before October 31, 2014.

1.0 FIRM REQUIREMENT

Item	Description	Quantity	Firm Unit Price
1.	<div>- Basic System</div> <div>Must include the following items:</div> <div><div>- RF transmitter</div><div>- RF receiver</div><div>- DSP and control unit</div><div>- System calibration unit</div><div>- Comprehensive BITE equipment</div><div>- Air drying</div><div>- Air pressurizing system</div><div>- PC</div><div>- UPS</div><div>- 19" Standard indoor rack</div><div>- Cassegrain antenna</div></div> <div>Make: _____ Model: _____</div> <div>Delivery Date: _____</div>	1 unit	\$ _____
2.	<div>- Positioner</div> <div>Must include the following items:</div> <div><div>- Installation of all RF components on the pivot platform, including supply lines for externally conditioned air.</div></div> <div>Make: _____ Model: _____</div> <div>Delivery Date: _____</div>	1 unit	\$ _____

3.	<p>- Trailer</p> <p>Must include the following items:</p> <ul style="list-style-type: none">- Installation of system components <p>Make: _____ Model: _____</p> <p>Delivery Date: _____</p>	1 unit	\$ _____
4.	<p>- Antenna</p> <p>Make: _____ Model: _____</p> <p>Delivery Date: _____</p>	1 unit	\$ _____
5.	<p>- Clutter Fence</p> <p>Make: _____ Model: _____</p> <p>Delivery Date: _____</p>	1 unit	\$ _____
6.	<p>- Antenna Heating</p> <p>Make: _____ Model: _____</p> <p>Delivery Date: _____</p>	1 unit	\$ _____

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7.	<p>- Spare Magnetron</p> <p>Make: _____ Model: _____</p> <p>Delivery Date: _____</p>	1 unit	\$ _____
8.	<p>- Installation of the deliverables of Items 1 to 7 on EC site</p> <p>Delivery Date: _____</p>	1 lot price	\$ _____
9.	<p>Completion of training provided to EC staff (minimum 5 people and minimum 3 days at EC premises at EC designated location in Downsview, Ontario.</p> <p>- Training must include a demonstration of the hardware and software, including calibration.</p>	1 lot price	\$ _____

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2.0 OPTION - (Date of Contract Award) to October 31, 2018.

Canada may purchase any or all of the optional extended warranty periods at any time during the period of the contract.

2.1 Option to Purchase Extended Warranty

Item	Description	Firm Annual Price
1	1 Year Warranty Extension	\$ _____ for 1 year warranty extension package from November 1, 2015 to October 31, 2016. \$ _____ for 1 year warranty extension package exercised between November 1, 2016 to October 31, 2017. \$ _____ for 1 year warranty extension package exercised between November 1, 2017 to October 31, 2018.

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ANNEX C
CERTIFICATION FORMS

Form 1
OEM Certification Form

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

Name of OEM _____

Signature of authorized signatory of OEM

Print Name of authorized signatory of OEM

Print Title of authorized signatory of OEM

Address for authorized signatory of OEM

Telephone no. for authorized signatory of OEM

Fax no. for authorized signatory of OEM _____

Date signed _____

Solicitation Number _____

Name of Bidder _____

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Form 2
Software Publisher Certification Form
(to be used where the Bidder itself is the Software Publisher)

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

[bidders should add or remove lines as needed]

Form 3
Software Publisher Authorization Form
(to be used where the Bidder is not the Software Publisher)

This confirms that the software publisher identified below has authorized the Bidder named below to license its proprietary software products under any contract resulting from the bid solicitation identified below. The software publisher acknowledges that no shrink-wrap or click-wrap or other terms and conditions will apply, and that the contract resulting from the bid solicitation (as amended from time to time by its parties) will represent the entire agreement, including with respect to the license of the software products of the software publisher listed below. The software publisher further acknowledges that, if the method of delivery (such as download) requires a user to "click through" or otherwise acknowledge the application of terms and conditions not included in the bid solicitation, those terms and conditions do not apply to Canada's use of the software products of the software publisher listed below, despite the user clicking "I accept" or signalling in any other way agreement with the additional terms and conditions.

This authorization applies to the following software products:

[bidders should add or remove lines as needed]

Name of Software Publisher (SP) _____

Signature of authorized signatory of SP _____

Print Name of authorized signatory of SP

Print Title of authorized signatory of SP _____

Address for authorized signatory of SP _____

Telephone no. for authorized signatory of SP

Fax no. for authorized signatory of SP _____

Date signed _____

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Solicitation Number _____

Name of Bidder _____

ANNEX D

EVALUATION CRITERIA

Mandatory Technical Criteria

Bidders must demonstrate meeting every mandatory technical criteria below by providing proof in their bids. Simply stating that the mandatory technical criteria is met or complied with is not sufficient. Failure to demonstrate meeting any of the mandatory criteria will result in the bid being deemed non-responsive.

Deliverable: The Complete Mobile Ka-Band Dual Polarization Radar must meet each of the specifications outlined below:

1. System Performance must meet the following specifications:

Item	Description	Identify where the supporting documentation is location in the bid package (page number(s))
1	Must have a range resolution minimum 60 m	
	Must be able to detect distributed targets at minimum of -60 dBZ at a range of 1 km and at a range resolution of 60m.	
2	Must have a duty cycle of 1:500	
3	Must transmit horizontal polarization	
4	Must operate with 120V/60Hz power	
5	Must include an Uninterruptible Power Supply to condition the power.	
6	The radar system must be able to operate between -30°C to +45°C and be able to automatically shut down and to be secured in strong winds (> 25 m /s)	

2. Detailed Radar System Requirements – Transmitter must meet the following specifications:

Specifications		
Item	Description	Identify where the supporting documentation is location in the bid package (page number(s))
1	Must operate in the Ka-band (35.1 – 35.3GHz)	
2	Must generate pulses with 100, 200, 400 nanosec widths	
3	Must generate pulses at 1500 to 10000 Hz	

3. Detailed Radar System Requirements - Antenna Subsystem must meet the following specifications:

Specifications		
Item	Description	Identify where the supporting documentation is location in the bid package (page number(s))
1	Must have a Cassegrain 1.2 m diameter dish Antenna sub-system with a gain of 50 dB and the first sidelobe of -23 dB	
2	The Antenna Sub-system must be able to scan in elevation from -1 to 92° relative to the horizon.	
3	The Antenna Sub-system must meet azimuthal scanning of 10°/s	
4	The Antenna Sub-system must meet a position accuracy of $\pm 0.1^\circ$	
5	The Antenna Sub-system must be able to be disassembled for packing, shipping and storage.	
6	The Antenna must have a cross-polarization isolation of -25 dB	

4. Detailed Radar System Requirements – Receiver must meet the following specifications:

Specifications		
Item	Description	Identify where the supporting documentation is location in the bid package (page number(s))
1	Must have a noise figure of 3.5 dB	
2	Must have a linear dynamic range of 84 dB	
3	Must sample at 14 bit at the Intermediate Frequency.	

5. Detailed Radar System Requirements - Signal Processor must meet the following specifications:

Specifications		
Item	Description	Identify where the supporting documentation is location in the bid package (page number(s))
1	Must have 1000 range gates	
2	Must have a range bin resolution of 15 m	
3	Must use Fast Fourier Transform signal processing	
4	Must have frequency domain clutter filters	
5	Must have 4 clutter filters	
6	Clutter filters must be capable of 40 dB suppression.	

6. Detailed Radar System Requirements – Radar Control and Configuration must meet the following specifications:

Specifications		
Item	Description	Identify where the supporting documentation is location in the bid package (page number(s))
1	Must have maintenance, calibration, Built-in Test Equipment and utilities that include each of the following capabilities and functionality: <ul style="list-style-type: none">• Manual radar operation;• a fault monitor capability;• time series sampling;• auto-calibration functions; and• on-site real-time displays	
2	Must have PPI, RHI, Volume, Stare scanning modes.	

7. Detailed Radar System Requirements – Radar Products must meet the following specifications:

Specifications		
1	Must generate Z_h (both total and ground clutter corrected reflectivity), V (radial velocity), W (spectral width), and time series I/Q data	
2	Must generate Moments and the Time Series	
3	Must display PPI (all moments), RHI and time series data in real-time.	

Point Rated Technical Criteria

Each bid that meets all the mandatory technical criteria specified above will be evaluated against the following point-rated technical criteria.

Total Maximum points available is: 146 points

A. System Performance (Maximum 61 points)

Item	Criteria	Points Available	Identify where the supporting documentation is located in the bid package (page number(s))

1	Should have a range resolution of 50m or better.	2 points for every 10 m to a maximum of 6 points	
2	Should have a sensitivity of better than -65 dBZ at 1km with 60 m range resolution.	1 point for every db improvement to a maximum of 10 points.	
3	Should have a 1.5 or 2 m dish.	5 point for 1.5 m or 10 points for 2 m.	
4	Have sidelobes (first one) less than -23dB	1 point for every db of improvement to a maximum of 10.	
5	Have cross-polarization performance of between than -25 dB	1 point for every db of improvement to a maximum of 10.	
6	Have radome with loss of less than 0.5 db	10 points for basic feature, then 1 point for every 0.1 db improvement to a max of a total of 15 points	

B. Antenna Subsystem (Maximum 20 points)

Item	Criteria	Points Available	Identify where the supporting documentation is located in the bid package (page number(s))
1	Should have scanning Speed 36° per second.	5 points	
2	Should have an Angular Positioning Accuracy of $\pm 0.05^\circ$	5 points	
3	Can automatically shut antenna scanning in strong wind conditions and secure itself to prevent damage.	10 points	

C. Receiver (Maximum 30 points)

Item	Criteria	Points Available	Identify where the supporting documentation is located in the bid package (page number(s))

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1	Should have a dual channel receiver for LDR polarization mode.	15 points	
2	Should have a Noise Figure of < 2.0 dB	5 points	
3	Should have a Linear Dynamic Range of greater than 95 dB	5 points	
4	Should IF Sampling of 16 bit.	5 points	

D. Signal Processor (Maximum 35 points)

Item	Criteria	Points Available	Identify where the supporting documentation is located in the bid package (page number(s))
5	Should have 2000 range bins	5 points	
6	Should have adaptive clutter filters	5 points	
7	Should have 16 clutter filters.	5 points	
8	Should have a total system clutter suppression capability of 50 dB or more	5 points for every 10 db to a maximum of 10 points	
9	Should have 2 nd Trip Recovery	5 points	
10	Can operate with dual-PRF modes of 3:2, and 4:3, and 5:4.	5 points	