

**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:**
Réception des soumissions - TPSGC / Bid
Receiving - PWGSC
1550 Avenue d'Estimauville
Québec
Québec
G1J 0C7

**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 Hyper Spectral imager		
Solicitation No. - N° de l'invitation W7701-125188/A	Date 2012-08-16	
Client Reference No. - N° de référence du client W7701-12-5188		
GETS Reference No. - N° de référence de SEAG PW-\$QCW-011-14777		
File No. - N° de dossier QCW-1-34744 (011)	CCC No./N° CCC - FMS No./N° VME	
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2012-09-26		Time Zone Fuseau horaire Heure Avancée de l'Est HAE
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: Lemay, Hélène		Buyer Id - Id de l'acheteur qcw011
Telephone No. - N° de téléphone (418) 649-2974 ()		FAX No. - N° de FAX (418) 648-2209
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: R & D POUR LA DÉFENSE CANADA VALCARTIER BATIMENT 53 2459 BLVD PIE XI NORD QUEBEC Québec G3J1X5 Canada		

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

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

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

Issuing Office - Bureau de distribution

TPSGC - PWGSC
1550 Avenue d'Estimauville
Québec
Québec
G1J 0C7

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PART 1 - GENERAL INFORMATION

1. Security Requirement

There is no security requirement associated with the requirement.

2. Requirement

The requirement is detailed under Article two (2) of the resulting contract clauses (Part 6).

3. Debriefings

After contract award, 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* (<http://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) 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 (2012-07-11) 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: one hundred twenty (120) days

1.1 SACC Manual Clauses

B1000T (2007-11-30), Condition of Material

1.2 Approval of Alternative Materials

When materials are specified by trade names or trademarks, or by manufacturers' or suppliers' names, the bid shall be based on use of the named materials. During the solicitation period, alternative materials may be considered provided full technical data is received in writing by the Contracting Officer at least ten (10) calendar days prior to the solicitation closing date. If the alternative materials are approved for the purposes of the bid, an addendum to the bid documents shall be issued.

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, at the following address:

**PWGSC
Bid receiving
1550 Avenue d'Estimauville
Québec, QC.
G1J 0C7**

2.1 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.

3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority, at **helene.lemay@tpsgc-pwgsc.gc.ca**, 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 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.

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.

5. Maximum Funding

The maximum funding available for the contract resulting from the bid solicitation is **\$1,335,000.00\$CAN**, all transportation and delivery charges and all Canadian Customs duties and excise taxes are included(Goods and Services Tax or the Harmonized Sales Tax extra, as appropriate). Bids valued in excess of this amount will be considered non-responsive. This disclosure does not commit Canada to pay the maximum funding available.

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

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

Section I: Technical Bid (two (2) hard copies)

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

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

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

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

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

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process Policy on Green Procurement

(<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders are encouraged to:

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

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.

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Section II: Financial Bid

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

1.1 SACC Manual Clauses

C3011T(2010-01-11), Exchange Rate Fluctuation

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 and Financial Evaluation

1.1.1 Mandatory Financial Criteria

Maximum funding

The maximum funding available for the contract resulting from the bid solicitation is **\$1,335,000.00\$CAN**, all transportation and delivery charges and all Canadian Customs duties and excise taxes are included (Goods and Services Tax or the Harmonized Sales Tax extra, as appropriate). Bids valued in excess of this amount will be considered non-responsive. This disclosure does not commit Canada to pay the maximum funding available.

Funding by Fiscal Year

Despite the Total Estimated Cost (Limitation of Expenditure) specified in the Contract, and unless otherwise authorized in writing by the Contracting Authority, the maximum amount which may be paid for work completed in the period ending 31 March of the year specified is as follows:

Period of award to March 31st 2013:	900,000.00\$
Period of April 1st 2013 to March 31st 2014:	435,000.00\$

Note: The date of March 31, 2014 refer to the end of the fiscal year only. All the deliverables must be received **on or before fifty-two(52) weeks after the contract award.**

1.1.2 Point Rated Technical Criteria

The Offeror must indicate how their proposal satisfies each of the rated criteria. Offerors must provide a response to each of the rated criteria, whether negative or positive. Offerors must also clearly state how its proposed services meets each of the criteria. **All information must be elaborated in a data sheet or any other document in which each of the criteria is clearly stated.**

A maximum of twenty (20) points shall be awarded for the rated criteria, and one point shall automatically be awarded to all eligible bidders for the requirements in the statement of requirements, for a total of twenty-one (21) points, or 70% of the overall score.

Note: The (*) symbol refers to more details or complementary information on the criteria specified in the requirement.

Statement of Needs references	Criteria	Specification	The Bidder submits and offers:			Points awarded if the requirement is met
			yes	No	That which is offered ⁽¹⁾ ?	
Section 2.a	1. Number of spatial pixels	>=1900 pixels				5
	2. Enclosed energy*	Greater than 85%				1
Section 2.b	3. Spectral sampling*	<=5nm across full spectral range				1
	4. Spectral resolution *	<=1.5x spectral sampling				1
	5. Spectral calibration *	The center wavelength and FWHM of each spectral channel should be known to within ±5% of the spectral sampling interval.				1
	6. Rejection of higher order light	Greater than 95%				1
Section 2.c	7. Radiometric uncertainty	<=2% uncertainty in stable operating conditions, within a flight section				1
	8. Radiometric stability	Re-calibration interval > 10 weeks of continuous operations				1
	9. Maximum radiance level*	>=150% reflectance lambertian horizontal surface				1
	10. Polarization sensitivity	<5%				1

Statement of Needs references	Criteria	Specification	The Bidder submits and offers:			Points awarded if the requirement is met
			yes	No	That which is offered ⁽¹⁾ ?	
Section 2.e	11. Synchronization and georeferencing	Imaging and processing system to have the capability to georeference the collected hyperspectral imagery in near real-time(time lag < time needed to collect 1000 frames is acceptable)				1
	12. On-board data exploitation	Real-time target detection				5
Total maximum score						20

⁽¹⁾ The supplier must clearly indicate what it is offering for each criterion for which it selects “yes,” and provide a data sheet or other document detailing the requirement offered. For example, for criterion 1. - *Number of spatial pixels*, indicate the number of pixels for which you are bidding (e.g. 2,000 pixels) and **include a data sheet or other document** describing your offer.

1.2 Financial Evaluation

1. The price of the bid will be evaluated as follows:

a) Prices will be evaluated in Canadian Funds including any applicable Taxes and Canadian Custom Duty and excluding the Goods and Services Tax (GST) or Harmonized Sales Tax (HST). For evaluation purposes, bids received in a foreign currency will be converted to Canadian funds using the appropriate rate of exchange using the rate quoted by the Bank of Canada as being in effect on date of bid closing.

b) Prices will be evaluated on a Ddp Quebec, Quebec, Canada.

2. Basis of Selection

2.1 Basis of Selection - 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;
- (b) meet all mandatory criteria;

2. Bids not meeting (a) or (b) will be declared non-responsive.

3. The evaluation will be based on the highest responsive combined rating of technical merit and price. The ratio will be 70 % for the technical merit and 30 % 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 70 %.

IMPORTANT: For evaluation purposes, one (1) point will be awarded to the requirement as it is the minimum technical required for this requirement.

5. To establish the pricing score, each responsive bid will be determined as follows: the difference between the maximum amount of funding and the price submitted by the supplier divided by the maximum amount of funding and then multiplied by 30%.

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.

Example: The table below illustrates an example where all four bids are responsive and the selection of the contractor is determined by a 70/30 ratio of technical merit and price, *respectively*. A maximum of twenty (20) points shall be awarded for the rated criteria, and one point shall automatically be awarded to all eligible bidders for the requirements in the statement of requirements, for a total of twenty-one (21) points, or 70% of the overall score. The price will be the difference between the maximum amount of funding and the price submitted by the supplier divided by the maximum amount of funding and then multiplied by 30%.

Basis of Selection - Highest Combined Rating Technical Merit (70%) and Price (30%)

	Bidder			
	Bidder 1	Bidder 2	Bidder 3	Bidder 4*
Requirement of Needs	1	1	1	1
Point rated technical criteria	14	5	6	0
Overall Technical Score	15/21	6/21	7/21	1/21
Bid Evaluated Price	\$1,300,000.00	\$1,050,000.00	\$1,200,000.00	\$900,000.00
Maximum funding	\$1,335,000.00	\$1,335,000.00	\$1,335,000.00	\$1,335,000.00
Calculations				
Technical Merit Score	$15/21 \times 70 = 50.00$	$6/21 \times 70 = 20.00$	$7/21 \times 70 = 23.33$	$1/21 \times 70 = 3.33$
Pricing Score	$(1,335 - 1,300) / 1,335 \times 30 = 0.79$	$(1,335 - 1,050) / 1,335 \times 30 = 6.40$	$(1,335 - 1,200) / 1,335 \times 30 = 3.03$	$(1,335 - 900) / 1,335 \times 30 = 9.78$
Combined Rating	50.79	26.40	26.36	13.11
Overall Rating	1st	2nd	3rd	4th

***This Bidder meets the mandatory criteria, but not submit any rated criteria. One point is awarded for compliance with the statement of requirements for all eligible bidders.**

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications to be awarded a contract. Canada will declare a bid non-responsive if the required certifications are not completed and submitted as requested.

Compliance with the certifications bidders provide to Canada is subject to verification by Canada during the bid evaluation period (before award of a contract) and after award of a contract. The Contracting Authority will have the right to ask for additional information to verify bidders' compliance with the certifications before award of a contract. The bid will be declared non-responsive if any certification made by the Bidder is untrue, whether made knowingly or unknowingly. Failure to comply with the certifications or to comply with the request of the Contracting Authority for additional information will also render the bid non-responsive.

1. Certifications Required with the Bid

1.1 Code of Conduct Certifications - Consent to a Criminal Record Verification

Bidders must submit with their bid, by the bid solicitation closing date:

- (a) a complete list of names of all individuals who are currently directors of the Bidder;
- (b) a properly completed and signed form Consent to a Criminal Record Verification (PWGSC-TPSGC 229), for each individual named in the list.

2. 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 Federal Contractors Program - Certification (*for canadian bidders only*)

2.1.1 Federal Contractors Program - \$200,000 or more

- 1. The Federal Contractors Program (FCP) requires that some suppliers, including a supplier who is a member of a joint venture, bidding for federal government contracts, valued at \$200,000 or more (including all applicable taxes), make a formal commitment to implement employment equity. This is a condition precedent to contract award. If the

Bidder, or, if the Bidder is a joint venture and if any member of the joint venture, is subject to the FCP, evidence of its commitment must be provided before the award of the Contract.

Suppliers who have been declared ineligible contractors by Human Resources and Skills Development Canada (HRSDC) are no longer eligible to receive government contracts over the threshold for solicitation of bids as set out in the Government Contracts Regulations. Suppliers may be declared ineligible contractors either as a result of a finding of non-compliance by HRSDC, or following their voluntary withdrawal from the FCP for a reason other than the reduction of their workforce to less than 100 employees. Any bids from ineligible contractors, including a bid from a joint venture that has a member who is an ineligible contractor, will be declared non-responsive.

2. If the Bidder does not fall within the exceptions enumerated in 3.(a) or (b) below, or does not have a valid certificate number confirming its adherence to the FCP, the Bidder must fax (819-953-8768) a copy of the signed form LAB 1168, Certificate of Commitment to Implement Employment Equity, to the Labour Branch of HRSDC.
3. The Bidder, or, if the Bidder is a joint venture the member of the joint venture, certifies its status with the FCP, as follows:

The Bidder or the member of the joint venture

- (a) ☐ is not subject to the FCP, having a workforce of less than 100 full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada;
- (b) ☐ is not subject to the FCP, being a regulated employer under the Employment Equity Act, S.C. 1995, c. 44;
- (c) ☐ is subject to the requirements of the FCP, having a workforce of 100 or more full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada, but has not previously obtained a certificate number from HRSDC (having not bid on requirements of \$200,000 or more), in which case a duly signed certificate of commitment is attached;
- (d) ☐ is subject to the FCP, and has a valid certificate number as follows:
_____ (e.g. has not been declared an ineligible contractor by HRSDC.)

Further information on the FCP is available on the HRSDC Web site.

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3. Financial Capability

SACC Manual Clause A9033T (2011-05-16) Financial Capability

PART 6 - RESULTING CONTRACT CLAUSES

1. Security Requirement

There is no security requirement associated with the requirement.

2. Requirement

The Contractor must provide an High-performance Visible and Near-Infrared - Shortwave Infrared (VNIR-SWIR) Airborne Hyperspectral Imager in accordance with the Requirement at Annex "A", Requirement of Needs and the Contractor's technical bid entitled _____, dated _____.
(to be completed at contract award)

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

3.1 General Conditions

2010A (2012-07-16), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

Warranty - Contractor responsible for all costs

Section 09 entitled "Warranty" of General Conditions - Goods (Medium Complexity) **2010A** is amended by deleting **subsection 2** in its entirety and replacing it with the following:

2. The Contractor must pay the transportation cost associated with returning the Work or any part of the Work to the Contractor's plant for replacement, repair or making good. The Contractor must also pay the transportation cost associated with forwarding the replacement or returning the Work or part of the Work when rectified to the delivery point specified in the Contract or to another location as directed by Canada. If, in the opinion of Canada, it is not expedient to remove the Work from its location, the Contractor must carry out any necessary repair or making good of the Work at that location. In such cases, the Contractor will be responsible for all Costs (including travel and living expenses) incurred in so doing, Canada will not reimburse these Costs.

All other provisions of the warranty section remain in effect.

2030 27 (2008-05-12) Intellectual Property Infringement and Royalties

1. The Contractor represents and warrants that, to the best of its knowledge, neither it nor Canada will infringe any third party's intellectual property rights in performing or using the Work, and that Canada will have no obligation to pay royalties of any kind to anyone in connection with the Work.
2. If anyone makes a claim against Canada or the Contractor concerning intellectual property infringement or royalties related to the Work, that Party agrees to notify the other Party in writing immediately. If anyone brings a claim against Canada, according to Department of Justice Act, R.S. 1985, c. J-2, the Attorney General of Canada must have the regulation and conduct of all litigation for or against Canada, but the Attorney General may request that the Contractor defend Canada against the claim. In either case, the Contractor agrees to participate fully in the defence and any settlement negotiations and to pay all costs, damages and legal costs incurred or payable as a result of the claim, including the amount of any settlement. Both Parties agree not to settle any claim unless the other Party first approves the settlement in writing.
3. The Contractor has no obligation regarding claims that were only made because:
 - a. Canada modified the Work or part of the Work without the Contractor's consent or used the Work or part of the Work without following a requirement of the Contract; or
 - b. Canada used the Work or part of the Work with a product that the Contractor did not supply under the Contract (unless that use is described in the Contract or the manufacturer's specifications); or
 - c. the Contractor used equipment, drawings, specifications or other information supplied to the Contractor by Canada (or by someone authorized by Canada); or
 - d. the Contractor used a specific item of equipment or software that it obtained because of specific instructions from the Contracting Authority; however, this exception only applies if the Contractor has included the following language in its own contract with the supplier of that equipment or software: "[Supplier name] acknowledges that the purchased items will be used by the Government of Canada. If a third party claims that equipment or software supplied under this contract infringes any intellectual property right, [supplier name], if requested to do so by either [Contractor name] or Canada, will defend both [Contractor name] and Canada against that claim at its own expense and will pay all costs, damages and legal fees payable as a result of that infringement." Obtaining this protection from the supplier is the Contractor's responsibility and, if the Contractor does not do so, it will be responsible to Canada for the claim.

4. If anyone claims that, as a result of the Work, the Contractor or Canada is infringing its intellectual property rights, the Contractor must immediately do one of the following:

- a. take whatever steps are necessary to allow Canada to continue to use the allegedly infringing part of the Work; or
- b. modify or replace the Work to avoid intellectual property infringement, while ensuring that the Work continues to meet all the requirements of the Contract; or
- c. take back the Work and refund any part of the Contract Price that Canada has already paid.

If the Contractor determines that none of these alternatives can reasonably be achieved, or if the Contractor fails to take any of these steps within a reasonable amount of time, Canada may choose either to require the Contractor to do (c), or to take whatever steps are necessary to acquire the rights to use the allegedly infringing part(s) of the Work itself, in which case the Contractor must reimburse Canada for all the costs it incurs to do so.

3.2 Supplemental General Conditions

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

4001 (2010-08-16), Hardware Purchase, Lease and Maintenance

4003 (2010-08-16), Licensed Software

4004 (2010-08-16), Maintenance and Support Services for Licensed Software

3.2.1 Acceptance Period

Paragraph 3 (b) of Section 10 of supplemental general conditions 4001 is amended as following:

“Canada will have sixty (60) days to perform its acceptance procedures (the "Acceptance Period")”

4. Term of Contract

4.1 Delivery Date

All the deliverables must be received on or before 52 weeks after the contract award.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Hélène Lemay
Title: Acting Supply Specialist
Public Works and Government Services Canada
Acquisitions Branch
Address: 1550 D'Estimauville Avenue
Québec (Qc) G1J 0C7

Telephone: 418- 649- 2974
Facsimile: 418- 648- 2209
E-mail address: helene.lemay@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.

5.2 Technical Authority *(to be completed at contract award)*

The Technical Authority for the Contract is :

Name: _____
Title: _____
Organization: _____

Telephone : _____
Facsimile : _____
Email : _____

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

5.3 Contractor's Representative

Name : _____

Title : _____

Telephone : _____

Facsimile : _____

E-mail : _____

5.4 Contact at Customer Department

For all information related to invoicing and/or payments you may communicate with:

Customer Department : _____

Name : _____

Telephone : _____

Facsimile : _____

Email : _____

6. Payment

6.1 Basis of Payment

6.1.1 Basis of Payment - Firm Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price, as specified in Annex B for a cost of \$ _____ (*insert the amount at contract award*). Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

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

6.2 Limitation of Price

SACC Manual Clause C6000C (2011-05-16) Limitation of Price

6.3 Payment Modality

6.3.1 Milestones Payment

For milestones 1 and 2 specified in Annex B - Basis of Payment:

1. Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract and the payment provisions of the Contract, up to the percentage of the amount claimed and approved by Canada, as specified in **Annex B - Basis of Payment**, if:

- a. an accurate and complete claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives;
- c. all work associated with the milestone and as applicable any deliverable required have been completed and accepted by Canada.

2. The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of all Work required under the Contract if the Work has been accepted by Canada and a final claim for the payment is submitted."

6.3.2 Milestones Payment

For milestones 3 and 4 specified in Annex B - Basis of payment:

Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract at **Annex B - Basis of Payment** and the payment provisions of the Contract if:

- a. an accurate and complete claim for payment using PWGSC-TPSGC 1111, Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives;
- c. all work associated with the milestone and as applicable any deliverable required has been completed and accepted by Canada.

6.3.3 Progress Reports

1. The Contractor must submit monthly reports, in electronic format, on the progress of the Work, to both the Technical Authority and the Contracting Authority.
2. The progress report must contain three parts:
 - a. PART 1: The Contractor must answer the following three questions:
 - i. Is the project on schedule?
 - ii. Is the project within budget?
 - iii. Is the project free of any areas of concern in which the assistance or guidance of Canada may be required?

Each negative response must be supported with an explanation.

- b. PART 2: A narrative report, brief, yet sufficiently detailed to enable the Technical Authority to evaluate the progress of the Work, containing as a minimum:
 - i. A description of the progress of each task and of the Work as a whole during the period of the report. Sufficient sketches, diagrams, photographs, etc., must be included, if necessary, to describe the progress accomplished.
 - ii. An explanation of any variation from the work plan.
 - iii. A description of trips or conferences connected with the Contract during the period of the report.
 - iv. A description of any major equipment purchased or constructed during the period of the report.
- c. PART 3: The "Contract Plan and Report Form", **stated in Annex C or an equivalent form**, showing the specified elements.

6.4 SACC Manual Clauses

C2000C (2007-11-30), Taxes - Foreign-based Contractor
 C2610C (2007-11-30), Customs Duties - DND - Importer

6.5 Shipping Instructions - Delivery at Destination

Goods must be consigned to the destination specified in the Contract and delivered:

Delivered Duty Paid (DDP) Québec, Québec, Canada, Incoterms 2000 for shipments from a commercial contractor.

7. Invoicing Instructions - Progress Payment Claim

1. The Contractor must submit a claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment.

Each claim must show:

- a. all information required on form PWGSC-TPSGC 1111;
- b. all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
- c. the description and value of the milestone claimed as detailed in the Contract.

Each claim, for **milestones 1 and 2, specified in Annex B -Basis of Payment**, must be supported by:

- a. a copy of the invoices, receipts, vouchers for all expenses;
- b. a copy of the monthly progress report;

Each claim, for **milestones 3 and 4, specified in Annex B - Basis of Payment**, must be supported by:

- a. a copy of the invoices, receipts, vouchers for all direct expenses, travel and living expenses;
2. The Goods and Services Tax or Harmonized Sales Tax (GST/HST), as applicable, must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no GST/HST payable as it was claimed and payable under the previous claims for progress payments.
 3. The Contractor must prepare and certify one original and two (2) copies of the claim on form PWGSC-TPSGC 1111, and forward it to the following address for appropriate certification:

Att: Suzanne Larrivée

Public Work and Government Services Canada

601-1550 Avenue D'Estimauville

Quebec, Quebec, G1J 0C7

Courriel : suzanne.larrivee@tpsgc-pwgsc.gc.ca

The Contracting Authority will then forward the original and two (2) copies of the claim to the Technical Authority for appropriate certification after inspection and acceptance of the Work takes place and onward submission to the Payment Office for the remaining certification and payment action.

4. The Contractor must not submit claims until all work identified in the claim is completed.

8. Certifications

- 8.1 Compliance with the certifications provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification or it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

9. Applicable Laws

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

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 following supplemental general conditions:
4001 (2010-08-16), Hardware Purchase, Lease and Maintenance
4003 (2010-08-16), Licensed Software
4004 (2010-08-16), Maintenance and Support Services for Licensed Software
- (c) the General Conditions **2030 27** (2008-05-12), Intellectual Property Infringement and Royalties
- (d) the general conditions **2010A** (2012-07-16), General Conditions - Goods (Medium Complexity);
- (e) Annex **A**, Requirement;
- (f) Annex **B**, Basis of Payment;
- (g) Annex **C**, Contract Plan and Report Form;
- (h) the Contractor's bid dated _____ (insert date of bid) (If the bid was clarified or amended, insert at the time of contract award: “, as clarified on _____” **or** “, as amended on _____” and insert date(s) of clarification(s) or amendment(s))

11. Defence Contract

SACC Manual clause A9006C (2008-05-12) Defence Contract

12. SACC Manual Clauses

G1005C (2008-05-12), Insurance

13. Visit to Supplier Facilities

The Supplier authorizes Canada, through its representative, to visit its facilities to monitor work progress. A minimum of two (2) site visits will take place at the expense of DRDC.

14. Contract Plan and Report form

The Supplier must provide to the contracting authority the "Contract Plan and Report Form", **stated in Annex C or an equivalent**, completed within **ten (10) days after contract award**.

ANNEX "A"

REQUIREMENT

High-performance Visible and Near-Infrared - Shortwave Infrared (VNIR-SWIR) Airborne Hyperspectral Imager

1. Objective

DRDC is procuring a high spatial and spectral resolution reflective imaging spectrometer covering the 400 to 2400 nm spectral range with a large field of view adapted for airborne wide area mapping applications. The spectrometer must have the capability to perform radiometrically calibrated, high signal-to-noise ratio, low distortions measurements at a high spectral resolution.

Precise image registration across the full spectral range is required, and an integrated system based on the Offner optical design using multiple focal plane arrays (FPAs) sharing a common aperture is required. The instrument will also support data acquisition, collection, and storage. Detailed requirements for the instrument are presented in this document. DRDC objective is to acquire a commercial off-the-shelf imager compliant with those requirements.

Imaging system must be in a configuration suitable for airborne operations on-board turbo-propeller type of aircraft, and designed to meet the following specifications:

- vibration and shock environment specifications for turbo-propeller type of aircraft, as specified in the published standards MIL-STD-810 F (methods 514.5 and 516.5) or RTCA DO-160E (Section 7, Table 7-1 and Section 8, Table 8-1). The system must also be able to withstand the shock of landing in the aircraft without losing alignment.
- electromagnetic interference standards as specified in the published standards MIL-STD-461E or RTCA DO-160E, Sections 18 to 21.

2. Hyperspectral imager technical specifications

2.a Spatial requirements

- **iFOV (instantaneous field of view)**
 - o *Required:* 0.25mrad
- **Number of spatial pixels**
 - o *Required:* >=1000 pixels
- **Keystone distortion**
 - o *Required:* <=0.1 pixel

- **Enclosed energy**
 - o *Required:* Not specified
 - o *Note:* enclosed energy is defined as the fraction of energy from a point source encircled by a radius equivalent to the pixel (or aggregated pixels if binning) pitch on the FPA
- **Modulation Transfer Function**
 - o *Required:* Greater than 0.3 MTF @ 1x Nyquist
 - o *Note:* The MTF requirement is specified in terms of a MTF fraction at the Nyquist frequency, as defined by the pixel pitch.
- **Spectral bands co-registration**
 - o *Required:* ≤ 0.1 pixel

2.b Spectral requirements

- **Spectral range**
 - o *Required:* ≤ 400 to ≥ 2400 nm
 - o *Note:* spectral range is defined as the range where the predicted SNR is greater than 45% of peak SNR (atmospheric absorption not included) . Full spectral range can be covered using multiple FPAs; in that case, their individual spectral ranges is also defined as the range where the predicted SNR is greater than 45% of its peak SNR (atmospheric absorption not included).
- **Spectral sampling**
 - o *Required:* ≤ 5 nm for $\lambda \leq 1000$ nm (VNIR), ≤ 10 nm for $\lambda \geq 1000$ nm (SWIR)
 - o *Note:* spectral sampling is defined as the difference between two adjacent spectral band center wavelength.
- **Spectral resolution**
 - o *Required:* ≤ 2.0 x spectral sampling.
 - o *Note:* spectral resolution is defined as the FWHM of each band spectral response. Spectral resolution can be non-uniform across the wavelength range.
- **Spectral calibration**
 - o *Required:*
 - ♦ The center wavelength and spectral response FWHM of each spectral band known to within $\pm 10\%$ of the spectral sampling interval.
- **Smile distorsion**
 - o *Required:* Smaller than 0.1 pixel (or aggregate pixels if binning)
- **Rejection of higher order light**
 - o *Required:* Not specified

2.c Radiometric requirements

- **SNR (signal to noise ratio)**
 - o *Required:*
 - ♦ VNIR: Peak SNR > 550, minimum SNR on 400-1000nm band > 250
 - ♦ SWIR: Peak SNR > 250 near 1500nm, ratio (Peak SNR) / (SNR@2200nm) smaller than 2.0.
 - o *Note:* SNR calculation must assume illumination corresponding to 0.5 reflectance target from 23.5 deg solar zenith angle, mid-latitude summer atmosphere, 23 km visibility rural aerosols (Aviris standard), 0.36mrad iFOV, 5nm sampling, a platform altitude of 3000m ASL, aircraft speed of 65m/sec, square pixels. All noise contributions must be clearly described, as well as all attenuations sources of the end-to-end system. System configuration (oversampling and binning, integration rates, etc.), approximations and unmodeled effects must be clearly presented.
- **Radiometric calibration**
 - o *Required:* >=95% absolute radiometric accuracy over the full spectral range
 - o *Note:* radiometric calibration is defined as the capability to convert at-aperture signal into radiance units. Calibration must be traceable to certified standards and/or ground instruments
- **Radiometric uncertainty**
 - o *Required:* <=5% uncertainty in stable operation conditions, within a flight section
- **Radiometric stability**
 - o *Required:* re-calibration interval > 2 weeks of continuous operations
- **Radiometric stability monitoring**
 - o *Required:*
 - ♦ On-board radiometric stability monitor mechanism
 - ♦ On-board noise measurement and noise statistics data logging capability
- **Maximum radiance level**
 - o *Required:* >=100% reflectance lambertian horizontal surface
 - o *Note:* Using the same signal level and configuration as for SNR calculations, maximum radiance level before saturation
- **Stray-light control**
 - o *Required:* Less than 10^{-4}
- **Signal digitization level**
 - o *Required:* >=14 bits across full spectral range
- **Polarization sensitivity**
 - o *Required:* Not specified

2.d Spectrometer and imaging system design requirements

- **F#**
 - *Required:* F/2.8 or lower f-stop
- **Spectrometer design**
 - *Required:* All reflective Offner with single fore-optic and aperture slit for the whole spectral range, with straight ruled reflective diffraction grating
- **Spectral downwelling hemispherical irradiance sensor**
 - *Required:* The imaging system must include a sensor to measure the spectral downwelling hemispherical irradiance. Measurements must be recorded synchronously with the imaging data. The incoming radiation associated to the spectral downwelling hemispherical irradiance must use the same optical path as the incoming radiation associated to the imaging at-aperture radiance, from the instrument aperture to the detectors, and must be measured using the same detectors.
- **Environmental stability and flight operations**
 - *Required:* Enclosure to maintain temperature and pressure between laboratory calibrations and flight operations.
- **Image forming mechanism**
 - *Required:* Pushbroom mode
 - *Note:* imaging system must be suitable for airborne operations
- **Cooling systems**
 - *Required:* Imaging system to be cooled with thermoelectric and/or cryomechanical cooling systems
 - *Note:* System must be designed to operate in an unpressurized environment (sea level to 5000m ASL), at temperatures ranging from +5C to +30C. System must reach optimal operating temperature in operational conditions within 15 minutes after airborne platform take-off. Pre-cooling is accepted.
- **Size**
 - *Required:* <=0.35m x 0.45m x 0.65m
- **Weight**
 - *Required:* <=40kg, fully operational configuration

2.e Data collection, processing, and exploitation systems requirements

- **Imagery collection**
 - *Required:* allowing imagery collection based on pre-defined collection plans (scripted mode) as well as manual control over data acquisition (manual mode).
- **Data collection rate**
 - *Required:* Maximum collection rate 100 frames / sec or higher at full resolution. If multiple detectors are used to cover the full spectral range, data collection rate of detectors must be synchronized and simultaneous.

- o **Graphical control interface**

- o *Required:* Graphical user interface based control interface, using a commercial computer system, designed for operator controlled operations.
- o *Note:* Control interface must allow routine operations as well as a diagnostic mode for parameters settings, data quality monitoring, monitoring of subsystems, housekeeping, etc.

- **Processing to at-aperture radiance units**

- o *Required:*
 - ◆ Calibration factors and full procedure to convert raw signal into calibrated at-aperture radiance.
 - ◆ Software solution to convert raw digital signal into calibrated at-aperture radiance units in near-real time.
- o *Note:* processing rate must be similar to data collection rate, with a small lag (< time needed to collect 1000 frames) acceptable.

- o **Access to raw and calibrated data**

- o *Required:*
 - ◆ Output the raw data with embedded telemetry in real-time
 - ◆ Output calibrated data with embedded telemetry in close to real-time (access to calibrated data on a storage device is acceptable)
- o *Note:* Output of data stream must use CameraLink, GigE, or equivalent protocol approved.

- o **Synchronization and georeferencing**

- o *Required:* All spectral channels must be collected simultaneously.
- o *Required:* Data collection system must allow synchronization and/or time-stamping of image data to an external GPS-IMU subsystem for precise georeferencing by a parallel processing system
- o *Required:* System electronic to allow communication with a serial interface inertial navigation system.

- o **Data recording**

- o *Required:* Non-proprietary format compatible with ENVI/IDL data format (flat binary file with associated header)
- o *Required:* Data storage hardware with 1TB capacity or greater
- o *Required:* Continuous data collection capacity at full spectral and spatial resolution for 1 minute or more, duty cycle >90%.
- o *Note:* Data must be stored on a flight capable digital recorder, and the storage media must be readily accessible for rapid post-flight analysis (swappable solid state drive or similar)

- o **On-board data exploitation**

- o *Required:* Not specified

3. Meetings

A kick-off teleconference meeting will be held within 5 business days of contract emission. All further meetings will be conducted through teleconferencing.

4. Location of work

All work will be conducted at the contractor's site. No work will be conducted on DND property

5. Training

The supplier will provide training on the following topics:

- Advanced training on hyperspectral imager sub-systems (hardware and software);
- Advanced training on hyperspectral imager operation and maintenance;
- Guidance on integration of imager on-board an airborne platform.

Training will have a minimal duration of two days, and maximal duration of 5 days. It will be provided in French or English, at DRDC Valcartier in Quebec City, after delivery of the instrument.

6. Deliverables

6.a Plans

The final plans presenting the required imager information and design must be submitted to the DRDC Valcartier technical officer once approved.

6.b Hyperspectral Imager

One hyperspectral imager with all associated hardware and software components, including data collection, processing, and exploitation systems, as stated in the Statement of Work and point rated criteria.

6.c Documentation

- Instrument user's guide: This document will include complete documentation on sensor operations, data calibration, integration with sub-systems, system maintenance, etc.
- Certification of system specifications: This document will include complete documentation on the tests and methods used to certify system performances, as well as actual system performances for:

- o Radiometric performance (SNR, dynamic range, enclosed energy, stray light, calibration, etc.);
- o Spatial performance (iFOV, FOV, MTF, distortions, etc.);
- o Spectral performance (range, sampling, resolution, calibration, etc.)
- o Smile and keystone distortions;
- o Temperature sensitivity;
- o Alignment sensitivity;

All documentation will be provided in PDF electronic format, and sent to DRDC through email.

7. Acceptance

Full imaging system performance will be demonstrated by the supplier. The training session will be used by DRDC as final system acceptance tests. The instrument delivered by the supplier must meet the performance specifications stated in the Statement of Work and point rated criteria.

8. Point rated criteria

The rated requirements submitted by the supplier must replace the minimum requirements in the statement of requirement for these criteria only. The other requirements in the statement of requirement must also be met by the supplier.

ANNEX "B"**BASIS OF PAYMENT****1. Schedule of Milestones**

The schedule of milestones for which payments will be made in accordance with the Contract is as follows:

Milestone No.	Description	Due Date or "Delivery Date"
1	Plans	On or before six (6) weeks after the date of contract award
2.	Delivery of instrument and documentation to DRDC	On or before fifty-two (52) weeks after the date of contract award
3.	Training	On or before fifty-two (52) weeks after the date of contract award

2. Basis of Payment

A firm price must be submit for each milestone as specified in the following table. Payment modalities for each milestone are detailed hereunder.

Milestones	Description	Firm Price	Payment modality
1	Preliminary and Final Plans	\$ _____	60% of the amount will be payable, after delivery , on invoices and form 1111 presentation; 40% payable at final acceptance
2	Instrument delivery		
2.1	Subcontractors: All inclusive price included, but not limited to, material, labour and delivery charges (if applicable)	\$ _____	60% will be payable on invoices and form 1111 presentation; 40% payable at final acceptance
2.2	Instrument (cost breakdown required)		
a)	Labour	\$ _____	60% will be payable on invoices and form 1111 presentation; 40% payable at final acceptance
b)	Parts and Materials	\$ _____	60% will be payable on invoices and form 1111 presentation; 40% payable at final acceptance
c)	Equipment	\$ _____	60% will be payable on invoices and form 1111 presentation; 40% payable at final acceptance
3	Training on DRDC site	\$ _____	Payable at final acceptance
4	All transportation and delivery charges (if applicable)	\$ _____	Payable at final acceptance
TOTAL FIRM PRICE = 1 + 2 + 3 + 4		\$ _____	

Solicitation No. - N° de l'invitation	Amd. No. - N° de la modif.	Buyer ID - Id de l'acheteur
W7701-125188/A		qcw011
Client Ref. No. - N° de réf. du client	File No. - N° du dossier	CCC No./N° CCC - FMS No/ N° VME
W7701-12-5188	QCW-1-34744	

CONTRACT PLAN AND REPORT FORM

Suppliers instructions: The purpose of this form is planning the works and reporting actual progress against the plan during contract performance.

[illegible]

