



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

**Bid Receiving - PWGSC / Réception des
soumissions - TPSGC**
11 Laurier St. / 11, rue Laurier
Place du Portage , Phase III
Core 0B2 / Noyau 0B2
Gatineau
Québec
K1A 0S5
Bid Fax: (819) 997-9776

**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 Aerial Vehicle	
Solicitation No. - N° de l'invitation 23240-160663/A	Date 2015-12-21
Client Reference No. - N° de référence du client 23240-160663	
GETS Reference No. - N° de référence de SEAG PW-\$CAG-002-25586	
File No. - N° de dossier 002cag.23240-160663	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-02-02	Time Zone Fuseau horaire Eastern Standard Time EST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: McMartin, Dugald	Buyer Id - Id de l'acheteur 002cag
Telephone No. - N° de téléphone (819) 956-0085 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATURAL RESOURCES 4TH FL 580 BOOTH ST OTTAWA Ontario K1A0E4 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

Civilian Aircraft Division/Division des Avions Civils
Portage III 8C1 - 50
11 Laurier St./11 rue Laurier
Gatineau
Québec
K1A 0S5

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

REQUEST FOR PROPOSAL (RFP)
ROTARY-WING UNMANNED AERIAL VEHICLE
FOR
NATURAL RESOURCES CANADA

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PART 1 - GENERAL INFORMATION

1.1 Statement of Work

Annex A – Statement of Work describes the requirements of the proposed unmanned aerial vehicle (UAV).

1.2 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

1.3 Trade Agreements

The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT)."

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

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

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

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

2.2 Submission of Bids

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

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than ten (10) calendar days before the bid closing date. Enquiries received after that time may not be answered. Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

2.4 Applicable Laws

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

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

- Section I: Technical Bid (2 hard copies)
- Section II: Financial Bid (2 hard copies)
- Section III: Certifications (2 hard copies)

Prices must appear in Annex B – Basis of Payment only. No prices must be indicated in any other section of the bid.

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

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

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

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

Section I: Technical Bid

In their technical bid, bidders should explain and demonstrate how they propose to meet the mandatory technical evaluation criteria, as described in Annex A - Statement of Work, and how they will carry out the Work.

The technical bid should be concise and address, but not necessarily be limited to, the points that are subject to the evaluation criteria against which the bid will be evaluated. In its technical bid, the Bidder must demonstrate its understanding of the requirements described in this RFP.

The technical bid shall be evaluated to ensure that the Mandatory Requirements specified in Appendix "A" Statement of Work have been met. Any proposal, which fails to meet any of the Mandatory Requirements in Annex A, will be deemed non-responsive and will not be given further consideration. Each requirement must be addressed separately.

The technical bid must properly complete the Mandatory Requirements Compliance Checklist provided in Appendix 1 to Annex A.

In order to facilitate the evaluation of the bid, Canada requests bidders to 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 bid by identifying the specific paragraph and page number where the subject topic has already been addressed.

In the event that apparent or real conflicts exist in the Statement of Work (SOW) in this RFP, Bidders must identify and communicate them to the Contracting Authority at least six (06) calendar days prior to the solicitation closing date. Canada reserves the right to subsequently modify the SOW and the RFP with the information provided.

It must be noted that a NON-COMPLIANT response to any Mandatory Requirement of the above referenced documents will render your proposal NON-COMPLIANT. Bidders must therefore ensure that they comply with the Mandatory Requirements of Appendix "A" prior to submitting a proposal.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Goods and Services Tax (GST) or Harmonized Sales Tax (HST) must be shown separately, if applicable. The Bidder's Financial Bid must be completed in Annex B – Basis of Payment and must provide a firm price for the stated requirements.

Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

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

4.1.1 Mandatory Requirements

This solicitation contains mandatory requirements. Where a requirement of this RFP is mandatory, it will be identified specifically with the word "Mandatory", an "(M)", or with a statement covering a section of this document. The words "shall" and "must", in the RFP are to be interpreted as mandatory requirements.

Proposals must comply with each and every mandatory requirement. Any proposal, which fails to meet any of the Mandatory Requirements in Annex A, will be deemed non-responsive and will not be given further consideration. Each requirement must be addressed separately.

All terms and conditions stated in this RFP including Part 6 Resulting Contract Clauses are mandatory unless otherwise indicated. **One (1) copy of Page one (1) of this RFP must be signed by the Bidder.** The Bidder's signature indicates acceptance of all the terms and conditions set out or referred to in this Request for Proposal. Bidders must be aware that a proposal containing statement(s) implying that the proposal is conditional on modification of terms and conditions of the RFP (which includes Annexes and all Appendices) and/or containing terms and conditions that supersede the terms and conditions of the RFP will be considered non-responsive.

Bids will be evaluated solely on the information provided in each Bidder's submission. Bids not meeting all of the mandatory requirements will be given no further consideration.

It is the responsibility of the Bidder to obtain, from the Contracting Authority identified any clarification of the requirement contained in the RFP prior to submitting its bid.

Any questions or concerns Bidders may have concerning any aspect of this requirement during the solicitation period and/or the subsequent evaluation period, up to and including the date of Contract award, must be directed only to the Contracting Authority. Non-compliance with this condition during the above mentioned periods can (for that reason alone) result in disqualification of the Bidder's proposal.

To facilitate bid preparation and bid evaluation, Bidders must prepare and submit compliance with Mandatory Requirements using the information and template provided in Appendix 1 to Annex A - Mandatory Requirements Compliance Checklist.

4.1.2 Financial Evaluation

The bid price for the Rotary-Wing Unmanned Aerial Vehicle (UAV) system will be evaluated in Canadian dollars, FCA Free Carrier Incoterms 2000, Contractors facility, Goods and Services Tax or the Harmonized Sales Tax (GST/HST) excluded.

The maximum funding available for the Contract resulting from the bid solicitation is \$85,000.00 (Applicable Taxes extra). Bids valued in excess of this amount will be considered non-responsive. This disclosure does not commit Canada to pay the maximum funding available.

4.2 Basis of Selection – Highest Rated within Budget

1. To be declared responsive, a bid must:
 - a) comply with all the requirements of the bid solicitation;
 - b) meet all mandatory technical evaluation criteria; and
 - c) must not provide a financial bid in excess of the stipulated maximum budget of \$85,000.00 (applicable taxes extra).
2. Bids not meeting (a) or (b) or (c) will be declared non responsive. The responsive bid with the lowest evaluated bid price in accordance with Annex B – Basis of Payment will be recommended for award of a contract, provided that the financial bid does not exceed the budget available for this requirement.

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

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

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

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

5.1 Certifications Required with the Bid

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

5.1.1 Declaration of Convicted Offences

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

5.1.2 Proof of Operations in Austere Operations

Pursuant to section 2.7.5 of Annex A, the Bidder must provide with its bid, proof of austere operations demonstrating required cold environmental extreme (-20C).

5.1.3 Proof Bidder is OEM

Pursuant to section 2.7.6 of Annex A, the Bidder must provide with its bid, proof that the Bidder is the Original Equipment Manufacturer (OEM) with an in-house design and engineering capability.

5.1.4 Special Flight Operating Certificate (SFOCs)

Pursuant to section 2.7.7 of Annex A, the Bidder must provide with its bid, a copy of the blanket Special Flight Operating Certificate (SFOC) for at least 1 Transport Canada region with the offered UAV.

5.1.5 Proof of Maintenance/Repair Capability

Pursuant to section 2.7.8 of Annex A, the Bidder must provide with its bid, detailed information on their maintenance/repair capability of the supplied UAV.

5.1.6 Details of Management Structure and CVs

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002cag
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Pursuant to section 2.7.9 of Annex A, the Bidder must provide with its bid, details of management structure and provide CV's of the principle personnel in the management, design/engineering, operations and training groups.

5.1.7 Proof of Engineering Degree and Professional Engineering Designation

Pursuant to section 2.7.10 of Annex A, the Bidder must provide with its bid, proof that at least one person in Design/Engineering group must have a Bachelor of Engineering degree and be a registered professional engineer (PEng). For educational requirements for an Engineering degree, Canada will only consider educational programs that were successfully completed by the resource by the time of bid closing. For professional designation requirements, the resource must have the required standing of the profession's governing body throughout the evaluation and Contract Period.

5.2 Certifications Precedent to Contract Award and Additional Information

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

5.2.1 Integrity Provisions – List of Names

Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Bidder. Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s). Bidders bidding as societies, firms or partnerships do not need to provide lists of names.

5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "[FCP Limited Eligibility to Bid](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from [Employment and Social Development Canada \(ESDC\) - Labour's](#) website.

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

5.2.3 Additional Certifications Precedent to Contract Award

5.2.3.4 Education and Experience

5.2.3.4.1 SACC Manual clause [A3010T](#) (2010-08-16) Education and Experience

PART 6 - RESULTING CONTRACT CLAUSES

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

6.1 Security Requirements

6.1.1 There is no security requirement applicable to this Contract.

6.2 Statement of Work

Annex A – Statement of Work describes the requirements of the proposed unmanned aerial vehicle (UAV).

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002cag
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6.3 Standard Clauses and Conditions

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

6.3.1 General Conditions

[2010A \(2015-09-03\)](#), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

6.3.2 SACC Manual Clauses

The following SACC Manual clause is hereby incorporated by reference and shall form part of this contract:

SACC Reference	Section	Date
H4500C	Lien - Section 427 of the Bank Act	2010-01-11
B1006C	Condition of Material - Contract	2014-06-26
B7500C	Excess Goods	2006-06-16
D9002C	Incomplete Assemblies	2007-11-30
D2001C	Labelling	2007-11-30
C6000C	Limitation of Price	2011-05-16
B1501C	Electrical Equipment	2006-06-16

6.4 Term of Contract

6.4.1 Delivery Date

On receipt of the Contract, the Contractor will commence preparation of the UAV system as specified in Appendix "A". All the deliverables must be received on or before 2016-03-31.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Dugald McMartin, Team Leader
Public Works and Government Services Canada
Acquisitions Branch
Aerospace Equipment Program Directorate
11 Laurier Street, Gatineau, QC, K1A 0S5
Telephone: 819-956-0085
Facsimile: 819-956-0549
E-mail address: dugald.mcmartin@pwgsc.gc.ca

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

6.5.2 Technical Authority

The Technical Authority for the Contract is:

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

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002cag
CCC No./N° CCC - FMS No./N° VME

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

The Technical 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 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.

Note to Bidders: The Technical Authority will be identified at the time of contract award.

6.6 Packing

Packaging shall be standard commercial packaging adequate to ensure safe arrival at destination. Items shall be packed to permit application of the lowest transportation rates or charges via the mode of carriage selected/authorized.

6.7 Shipping Instructions - Delivery at Destination

Goods must be consigned to the destination specified in the Contract and delivered DDP Delivered Duty Paid, Ottawa, Ontario, Incoterms 2000 for shipments from commercial Contractor.

The Contractor is responsible for all delivery charges, administration, costs and risk of transport and customs clearance, including the payment of customs duties and taxes.

6.8 Inspection and Acceptance

The Technical 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 the Statement of Work 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.

Prior to delivery of the UAV system, the Contractor will conduct for NRCan a pre-delivery flight demonstration of the required flight planning, following and control capabilities at maximum payload weight of the UAV in the Ottawa area.

Upon receipt of the complete UAV system as described in Annex A, the Technical Authority will conduct an initial inspection to verify conformance to the specified Mandatory Requirements, to inspect all associated documentation and to assess the general condition of the UAV system.

Initial acceptance is defined as Inspection Authority certification of the following:

- a) successful Contractor demonstration in Ottawa of the required flight planning, following and control capabilities at maximum payload weight of the UAV
- b) receipt of the complete UAV system as described in Annex A;
- c) conformance to the specified Mandatory Requirements;
- d) that all documentation required for the UAV system to meet Canadian airworthiness requirements and all other associated documentation has been provided by the Contractor; and
- e) that the work meets the standards required by the contract.

Following initial acceptance, the Contractor is responsible to rectify all deficiencies in the UAV related to software/firmware, hardware malfunctions or performance shortcomings, and airworthiness deficiencies. Providing that all parts, equipment, capabilities and documentation is in order in accordance with Annex A - Statement of Work, and all deficiencies are rectified, the UAV system will then achieve final acceptance

Final acceptance is defined as Inspection Authority certification, per Annex C - Technical Acceptance Receipt (Final Acceptance), of the following:

- a) the Contractor has rectified all deficiencies in the UAV system; and
- b) all parts, equipment, capabilities and documentation is in order in accordance with Annex A - Statement of Work.

6.9 Warranties

Warranties covering this equipment shall, at a minimum meet the requirements of 2010A (2015-09-03) General Conditions - Goods (Medium Complexity). All Manufacturer's warranties, **including any extended warranties**, shall be assigned to Canada.

6.10 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" of \$ _____ (insert the amount at contract award). Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

6.11 Method of Payment – Milestones

Canada will make milestone payments in accordance with the Milestone Payment Schedule below and the payment provisions of the Contract if:

- (a) an accurate and complete claim for payment using PWGSC-TPSGC 1111 and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- (b) the total amount for all milestone payments paid by Canada does not exceed 100% percent of the total amount to be paid under the Contract;
- (c) all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives;
- (d) all work associated with the milestone and as applicable any deliverable required has been completed and accepted by Canada.

Milestone Payment Schedule	
Delivery of complete UAV system as described in Annex A, no later than March 31, 2015, and successful inspection and initial acceptance as described in Part 6, Section 6.8	50% of Contract Value
Successful final acceptance as described in Part 6, Section 6.8	50% of Contract Value

Milestone payments shall be regarded as interim payments only and the Minister shall have the right to conduct interim cost/time verification or audits and to make adjustments from time to time during the

performance of the Work. Any overpayment resulting from such milestone payments or otherwise shall be promptly refunded to Canada.

Payment of deliverables identified in the Contract shall be based on acceptance by the Technical Authority, not on submission.

6.12 Certifications

6.12.1 Compliance

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

6.13 Insurance

6.13.1 Liability

The Contractor is required to satisfy Canada that it has resources available to satisfy any liability of the Contractor to Canada that may arise out of the Contract or its breach, to a level of at least **the value of the Contract**. If requested to do so, the Bidder shall provide to the Contracting Officer proof that it has at least that amount available in the form of working capital, realizable value of unencumbered fixed assets and/or liability insurance.

6.13.2 Liability Insurance

(1) The Contractor shall maintain in force, throughout the period of performance of the Contract, liability insurance in an amount which, together with the Contractor's working capital and the realizable value of its unencumbered fixed assets from time to time, would be sufficient to satisfy the maximum liability to Canada that the Contractor could incur under the Contract.

(2) At the request of the Contracting officer from time to time, the Contractor shall immediately provide to the Contracting Officer either (a) certificates evidencing the current status of the insurance required in subsection (1), which describe the coverage and any material exclusions from or limitations on the coverage, or (b) evidence that the Contractor requires no insurance to satisfy the requirements of subsection (1).

(3) If the period of performance of the Contract is longer than one year, the Contractor shall, at the request of the Contracting Officer, provide to the Contracting Officer, on each anniversary date of the execution of the Contract during the period of performance of the Contract, a breakdown of the current contribution of its working capital, realizable value of unencumbered fixed assets, and insurance toward its ability to satisfy the maximum liability to Canada that the Contractor could incur under the Contract.

6.13.3 Limitation of Liability

Notwithstanding anything else in the Contract, the Contractor's liability to Canada for all losses suffered by Canada as a result of any breach of the Contractor's obligations to Canada under the Contract (including any such liability in tort, negligence or any other cause of action, and including liability for indirect or consequential damages), except any breach of the warranty provisions of the Contract, shall be limited to the value of the contract. This clause shall not in any way limit the Contractor's liability to any third party (or to Canada for any amount in respect of the Contractor's liability to a third party that Canada is required to pay as a result of joint and several liability) or require any contribution by Canada in relation to any such third-party liability of the Contractor.

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6.14 Applicable Laws

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

6.15 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) 2010A (2015-09-03), General Conditions - Goods (Medium Complexity),);
- (d) Annex A, Statement of Work;
- (e) Annex B, Basis of Payment;
- (f) 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)*)

ANNEX A

STATEMENT OF WORK (SOW)

FOR A ROTARY-WING UNMANNED AERIAL VEHICLE

Natural Resources Canada has a requirement for a Rotary-Wing Unmanned Aerial Vehicle.

1.0 **Scope**

1.1 **Objective**

Natural Resources Canada (NRCan) has a requirement for a commercial off-the-shelf rotary-wing unmanned aerial vehicle (UAV) of less than 25 kg weight (including payload) for use in aerial mapping. The procured UAV will be used as an airborne platform to carry custom sensors (payload) on airborne survey missions. The UAV will also allow for the installation (and easy removal) of a gimbal-mounted DSLR camera (specified in 2.3.6) when the payload is not installed.

1.2 **Background**

Natural Resources Canada (NRCan) has a mandate to provide specialized mapping within the federal government. This is typically accomplished using a variety of platforms including helicopter and fixed-wing aircraft. This procurement will allow NRCan to explore aerial mapping within the operational envelope of a rotary-wing UAV.

1.3 **Terminology**

GPS	Global Positioning System
MP	Megapixel
NRCan	Natural Resources Canada
RTK	Real Time Kinetic
SFOC	Special Flight Operating Certificate (issued by Transport Canada)
TA	Technical Authority
UAV	Unmanned Aerial Vehicle

2.0 **Requirements**

2.1 **Scope of Work**

2.1.1 The Bidder must provide a battery powered rotary-wing UAV of less than 25 kg weight (including payload) that capable of carrying a 6kg payload with an endurance of 25 minutes, a ground control station with flight following and control functions and a battery recharging station with enough batteries to allow for continuous operations. The UAV must have power and network connections available for use by custom payloads.

2.2 **Specifications:**

2.2.0 The UAV must be a commercial off-the-shelf system capable of operation in accordance with applicable Canadian Aviation Regulations (CARs).

2.2.1 The UAV must be Rotary Wing vertical take-off and landing aerial vehicle with a main rotor and anti-torque tail rotor.

2.2.2 The drivetrain must be a battery powered electric motor.

2.2.3 The total vehicle weight including batteries and payload must be less than 25 kg.

2.2.4 The payload capacity must be at least 6 kg to accommodate a specialized sensor package of 6 kg mass.

2.2.5 The endurance must be at least 25 minutes with 6 kg payload.

2.2.6 The line of sight control range of the UAV must be at least 10 km.

2.2.7 The GPS single point L1/L2 horizontal position RMS accuracy must be equal to or less than 1.2 m.

2.2.8 The GPS must be dual frequency (L1/L2) with Satellite Based Augmentation System and Real Time Kinematic capability. Examples are Novatel OEM617, and Trimble MB-One.

2.2.9 Raw GPS data must be stored to allow for differential post-mission processing.

2.2.10 The batteries must be replaceable within 5 minutes.

2.2.11 The UAV must be capable of takeoff in winds up to 25 km/h.

2.2.12 The UAV must be capable of flying at 60 km/h in level flight.

2.2.13 The UAV must be capable of operating within a temperature range of -20C to +40C.

2.2.14 The UAV must be able to operate in 100% humidity.

2.2.15 The payload telemetry range must be at least 10 km.

2.2.16 A dedicated payload telemetry link between the UAV and the base station must be provided. This telemetry must be transmitted through a TCP/IP data link by means of a wireless bridge/router.

2.2.17 A power connection must be available on UAV to provide 40 watts at 12 V for payload use.

2.2.18 Three (3) on-board Ethernet ports (RJ45) must be available for use by the payload sensor to allow for a wired connection from payload to onboard TCP/IP network for transmission of payload sensor, GPS and altimetry data to ground station in real time (100 kB/s).

2.2.19 GPS signal must be available for use by payload sensor package for timing and positioning.

2.2.20 A ground control station must be provided consisting of a laptop computer with flight following and control software and 2 monitors displaying live video feed and control telemetry from UAV as well as map with updated UAV position information. Position must be updated at or greater than 1 Hz.

2.2.21 Three (3) Ethernet ports (RJ45) must be available at the base station to allow access to UAV TCP/IP network.

2.2.22 UAV must be capable of autonomous takeoff and landing as well as following a predetermined flight path through the use of the flight control software and autopilot provided.

2.2.23 UAV must be capable of maintaining a set height above ground as well as maintaining a set position autonomously through the use of the flight control software and autopilot provided.

2.2.24 The operator must be able to define prohibited areas and a maximum altitude through the use of flight control software and autopilot provided.

2.2.25 The autopilot must include a return to home function following loss of link, a low battery power level or other fault.

2.2.26 The operator must be able to override preprogrammed flight and take direct control.

2.2.27 The operator must be able to alter waypoints and loiter points of planned flight path during flight.

2.2.28 Flight planning software must be provided and be capable of generating a grid / survey based flight plan based on survey limits and operator specified distance between flight lines.

2.2.29 Flight simulation software must be provided and allow the operator to practice flight operations in a virtual environment with realistic flight control base on the provided UAV.

2.2.30 At least four mounting points must be made available on the UAV such that a mounting plate for a custom sensor can be securely attached. Mounting hardware such as nuts and bolts, or screws, that will be used to attach the mounting plate to the mounting points on the UAV, must be provided. The exact spacing of the mounting points is to be determined in consultation with the Technical Authority after contract award but will be no more than 15 cm x 15 cm.

2.2.31 A 19cm x 20cm x 28cm (length by width by height) volume of space must be available directly below the mounting points.

2.2.32 Weight and balance must be within acceptable range when 6 kg sensor is attached.

2.3 Accessories

2.3.1 The bidder must supply a spares kit including but not limited to a full set replacement blades, airframe, landing legs/skids.

2.3.2 The bidder must provide rugged, weather proof and shock resistant carrying cases suitable for shipping all components including UAV, flight control station and batteries. These shipping/carrying cases must have foam inserts with cut-outs matching the size and shape of the individual components. Exceptions to the foam insert requirement may be made for some components where this feature would not be appropriate.

2.3.3 Bidder must supply enough batteries to allow for continuous operations plus 2 spare.

2.3.4 Bidder must supply a battery charging station that will recharge the UAV batteries within 30 minutes.

2.3.5 Bidder must supply a controllable gimbal mount attached to the UAV, capable of supporting at least 1.2 kg. This mount must be removable.

2.3.6 Bidder must supply a Full-HD (1080p) Digital Single Lens Reflex camera capable of at least 30 MP still images attached to gimbal mount as described in 2.2.5. Gimbal mounted video hardware must be removable and does not necessarily have to be in place at the same time as the specialized sensor defined in 2.2.30 to 2.2.31. Lower resolution video (720p or better) must be available when main camera is removed.

2.4 Training

2.4.1 The Bidder must provide four (4) days of training in Ottawa with same type of platform for 4 people to satisfy Transport Canada's aviation knowledge requirement for SFOC applications. The UAV course must be conducted within 8 months of contract award. The outputs will include certification of course completion and a Restricted Radio Operators Certificate for each participant. It must include the following elements:

1. Introduction to unmanned aircraft systems
2. Human factors and radio telephony

3. Air law & procedures
4. Weather concepts for UAV operators
5. Theory of flight
6. Special Flight Operating Certificate
7. Site considerations for UAV operators
8. Aircraft logbooks
9. Ground Control Station operations for a helicopter UAV
10. Payload operations for a UAV
11. Live flight as Ground Control Station operator with same type of UAV as supplied.

2.5 Support

2.5.1 The Bidder must provide one year of technical engineering support during normal business hours including software updates.

2.6 Documentation

2.6.1 The Bidder must provide flight and maintenance manuals.

2.7 Bidder Qualifications

2.7.1 The Bidder must have been in business for at least 3 years.

2.7.2 The Bidder must have at least 3 year of experience designing and operating UAV's.

2.7.3 The Bidder must have sold at least 5 UAV's of same type.

2.7.4 The Bidder must have a total of at least 2 000 flight hours of UAV operations, which must include a minimum of 100 flight hours with the offered UAV.

2.7.5 The Bidder must provide with the bid proof of austere operations demonstrating required cold environmental extreme (-20 C)

2.7.6 The Bidder must be the Original Equipment Manufacturer with an in-house design and engineering capability. Details of this capability and examples of previous customized design and engineering work is required with the bid.

2.7.7 The Bidder must provide evidence that a blanket Special Flight Operating Certificate for at least 1 Transport Canada region has been obtained for the offered UAV. Bidder must provide proof with the bid.

2.7.8 Bidder must be capable of providing maintenance and repair of supplied UAV. The Bidder must provide detailed information on their maintenance/repair capability with the bid.

2.7.9 Bidder must provide with the bid details of management structure and provide CV's of the principle personnel in the management, design/engineering, operations and training groups.

2.7.10 At least one person in Design/Engineering group must have a Bachelor of Engineering degree and be a registered professional engineer (PEng). Bidder must provide proof with the bid.

Appendix 1 to Annex A

Proposals must clearly demonstrate compliance with mandatory requirements using the form titled "**Mandatory Requirements Compliance Checklist**" provided in **Appendix 1 to Annex A**.

Non-compliance with any of the mandatory requirements will render the proposal non responsive and it shall be disqualified and receive no further consideration.

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ANNEX B

BASIS OF PAYMENT

1. Financial Bid

Bidders must provide a **firm fixed price** in Canadian Dollars for the Rotary-Wing Unmanned Aerial Vehicle (UAV) system as detailed in the mandatory requirements of Annex A - Statement of Work.

1.1 Bid Price

The bid price for the Rotary-Wing Unmanned Aerial Vehicle (UAV) system will be evaluated in Canadian dollars, FCA Free Carrier Incoterms 2000, Contractors facility, Goods and Services Tax or the Harmonized Sales Tax (GST/HST) excluded.

	<u>Firm Fixed Price</u>
Complete Rotary-Wing Unmanned Aerial Vehicle (UAV) system including spares, support and training per mandatory requirements of Annex A	
TOTAL BID PRICE (M)=	\$

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ANNEX C

TECHNICAL ACCEPTANCE RECEIPT

(FINAL ACCEPTANCE)

THE UNDERSIGNED hereby acknowledges that on the _____ day of _____, _____, _____ ("Seller") did deliver for inspection to Her Majesty the Queen in Right of Canada ("Buyer"), the supply of a rotary wing unmanned aerial vehicle with all Parts, Equipment, Capabilities and Documentation, in accordance with and as defined by the Contract made between Buyer and Seller as of the ___ day of _____, _____ (the "Purchase Agreement").

THE UNDERSIGNED hereby further acknowledges that it did conduct an inspection, as outlined in Section 6.8 of this Agreement, of the aforementioned Parts, Equipment, Capabilities and Documentation and does hereby acknowledge that same are technically acceptable to it and in the condition for final acceptance as required under this Agreement (except for the items listed on the page attached hereto).

EXECUTED this _____ day of _____, _____.

NATURAL RESOURCES CANADA
TECHNICAL AUTHORITY

Per: _____

Title: _____

Witness: _____

HER MAJESTY THE QUEEN IN
RIGHT OF CANADA (PWGSC)

Per: _____

Title: _____