



RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Réception des soumissions - TPSGC / Bid Receiving
- PWGSC
1550, Avenue d'Estimauville
1550, D'Estimauville Avenue
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 Flight Motion Simulator System	
Solicitation No. - N° de l'invitation W7701-176479/B	Date 2018-11-16
Client Reference No. - N° de référence du client W7701-176479	
GETS Reference No. - N° de référence de SEAG PW-\$QCL-042-17539	
File No. - N° de dossier QCW-7-40042 (042)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2019-01-15	Time Zone Fuseau horaire Heure Normale du l'Est HNE
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Hamel, Jonathan	Buyer Id - Id de l'acheteur qcl042
Telephone No. - N° de téléphone (418) 649-2806 ()	FAX No. - N° de FAX (418) 648-2209
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: RDDC-R et D Défense Canada-Valcartier DRDC-Defense R&D Canada Valcartier Bâtisse 53 2459, route de la Bravoure 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

Issuing Office - Bureau de distribution
TPSGC/PWGSC
601-1550, Avenue d'Estimauville
Québec
Québec
G1J 0C7

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

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This Request for Proposal is in response to the Request for Information W7701-176479/A and posted from 2017-05-25 to 2017-06-27.

PART 1 - GENERAL INFORMATION

1.1 Introduction

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

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides Bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications and Additional Information: includes the certifications and additional information to be provided;
- Part 6 Security, Financial and Other Requirements: includes specific requirements that must be addressed by Bidders; and
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The following Annexes:

Annex "A" Statement of Work
Annex "B" Basis of Payment and Schedule of Milestones
Annex "C" Security Requirements Check List

The following Attachments:

Attachment 1 to Part 3 Technical Bid Preparation Instructions
Attachment 2 to Part 3 Electronic payment instruments
Attachment 1 to Part 4 Mandatory Evaluation Criteria
Attachment 1 to Part 5 Federal Contractors Program for Employment Equity – Certification

1.2 Summary

Project title

Flight Motion Simulator System

Description

To conduct hardware-in-the-loop testing of tracking sensors, Public Services and Procurement Canada (PSPC) on behalf of Defense Research and Development Canada (DRDC) located in Valcartier, (Quebec), seeks procurement of a Flight Motion Simulator System to simulate the motion of a Unit Under Test (UUT) and incoming Electro-Optical (EO) / InfraRed (IR) scene.

Period of Contract

The contract issued will be for a period of 60 months.

Security Requirements

There is a security requirement associated with this requirement. For additional information, consult Part 6 - Security, Financial and Other Requirements, and Part 7 - Resulting Contract Clauses. For more information on personnel and organization security screening or security clauses, bidders should refer to the [Canadian Industrial Security Directorate \(CISD\), Industrial and Security Program](#) of Public Works and Government Services Canada website.

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), the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), and the Canadian Free Trade Agreement (CFTA).

Federal Contractors Program for Employment Equity

There is a Federal Contractors Program (FCP) for employment equity requirement associated with this procurement; see Part 5 - Certifications, Part 7 - Resulting Contract Clauses and the attachment named Federal Contractors Program for Employment Equity - Certification.

1.3 Debriefings

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

1.4 Phased Bid Compliance Process

The Phased Bid Compliance Process ("PBCP") applies to this requirement.

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) (<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 \(2017-04-27\)](#) 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: 60 days
Insert: 100 days

2.1.1 SACC Manual Clauses

[A7035T](#) (2007-05-25), List of Proposed Subcontractors

2.2 Submission of Bids

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

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

2.3 Enquiries - Bid Solicitation

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

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

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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 Québec

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.

2.5 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 fifteen (15) days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

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

Section I: Technical Bid: five (5) hard copies and 2 electronic copies on CD or DVD.

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

Section III: Certifications: one (1) hard copy

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

Canada requests that bidders follow the format instructions described below in the preparation of hard copy 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](#). To assist Canada in reaching its objectives, bidders should:

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

Section I: Technical Bid

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

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

Part 4, Evaluation Procedures and Basis of Selection contains additional instructions that bidders should consider when preparing their technical Bid.

The structure and content requested for the Technical Bid (Section I) are detailed in *Attachment 1 to Part 3 Technical Bid Preparation Instructions*.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Annex B - Basis of Payment.

The total amount of Applicable Taxes must be shown separately.

3.1.1 Exchange Rate Fluctuation

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

3.1.2 Electronic Payment of Invoices – Bid

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete *Attachment 2 to Part 3 - Electronic Payment Instruments*, to identify which ones are accepted.

If *Attachment 2 to Part 3 - Electronic Payment Instruments* is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

Section III: Certifications

Bidders must submit the certifications and additional information 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.
- (c) Canada will use the Phased Bid Compliance Process described below.

4.1.1 Phased Bid Compliance Process

4.1.1.1 General

- (a) Canada is conducting the PBCP described below for this requirement.
- (b) Notwithstanding any review by Canada at Phase I or II of the PBCP, Bidders are and will remain solely responsible for the accuracy, consistency and completeness of their Bids and Canada does not undertake, by reason of this review, any obligations or responsibility for identifying any or all errors or omissions in Bids or in responses by a Bidder to any communication from Canada.

THE BIDDER ACKNOWLEDGES THAT THE REVIEWS IN PHASE I AND II OF THIS PBCP ARE PRELIMINARY AND DO NOT PRECLUDE A FINDING IN PHASE III THAT THE BID IS NON-RESPONSIVE, EVEN FOR MANDATORY REQUIREMENTS WHICH WERE SUBJECT TO REVIEW IN PHASE I OR II AND NOTWITHSTANDING THAT THE BID HAD BEEN FOUND RESPONSIVE IN SUCH EARLIER PHASE. CANADA MAY DEEM A BID TO BE NON-RESPONSIVE TO A MANDATORY REQUIREMENT AT ANY PHASE. THE BIDDER ALSO ACKNOWLEDGES THAT ITS RESPONSE TO A NOTICE OR A COMPLIANCE ASSESSMENT REPORT (CAR) (EACH DEFINED BELOW) IN PHASE I OR II MAY NOT BE SUCCESSFUL IN RENDERING ITS BID RESPONSIVE TO THE MANDATORY REQUIREMENTS THAT ARE THE SUBJECT OF THE NOTICE OR CAR, AND MAY RENDER ITS BID NON-RESPONSIVE TO OTHER MANDATORY REQUIREMENTS.

- (c) Canada may, in its discretion, request and accept at any time from a Bidder and consider as part of the Bid, any information to correct errors or deficiencies in the Bid that are clerical or administrative, such as, without limitation, failure to sign the Bid or any part or to checkmark a box in a form, or other failure of format or form or failure to acknowledge; failure to provide a procurement business number or contact information such as names, addresses and telephone numbers; inadvertent errors in numbers or calculations that do not change the amount the Bidder has specified as the price or of any component thereof that is subject to evaluation. This shall not limit Canada's right to request or accept any information after the bid solicitation closing in circumstances where the bid solicitation expressly provides for this right. The Bidder will have the time period specified in writing by Canada to provide the necessary documentation. Failure to meet this deadline will result in the Bid being declared non-responsive.
- (d) The PBCP does not limit Canada's rights under Standard Acquisition Clauses and Conditions (SACC) 2003 (2017-04-27) Standard Instructions – Goods or Services – Competitive Requirements nor Canada's right to request or accept any information during the solicitation period or after bid solicitation closing in circumstances where the bid solicitation expressly provides for this right, or in the circumstances described in subsection (c).

- (e) Canada will send any Notice or CAR by any method Canada chooses, in its absolute discretion. The Bidder must submit its response by the method stipulated in the Notice or CAR. Responses are deemed to be received by Canada at the date and time they are delivered to Canada by the method and at the address specified in the Notice or CAR. An email response permitted by the Notice or CAR is deemed received by Canada on the date and time it is received in Canada's email inbox at Canada's email address specified in the Notice or CAR. A Notice or CAR sent by Canada to the Bidder at any address provided by the Bidder in or pursuant to the Bid is deemed received by the Bidder on the date it is sent by Canada. Canada is not responsible for late receipt by Canada of a response, however caused.

4.1.1.2 Phase I: Financial Bid

- (a) After the closing date and time of this bid solicitation, Canada will examine the Bid to determine whether it includes a Financial Bid and whether any Financial Bid includes all information required by the solicitation. Canada's review in Phase I will be limited to identifying whether any information that is required under the bid solicitation to be included in the Financial Bid is missing from the Financial Bid. This review will not assess whether the Financial Bid meets any standard or is responsive to all solicitation requirements.
- (b) Canada's review in Phase I will be performed by officials of the Department of Public Works and Government Services Canada (PWGSC).
- (c) If Canada determines, in its absolute discretion that there is no Financial Bid or that the Financial Bid is missing all of the information required by the bid solicitation to be included in the Financial Bid, then the Bid will be considered non-responsive and will be given no further consideration.
- (d) For Bids other than those described in c), Canada will send a written notice to the Bidder ("Notice") identifying where the Financial Bid is missing information. A Bidder, whose Financial Bid has been found responsive to the requirements that are reviewed at Phase I, will not receive a Notice. Such Bidders shall not be entitled to submit any additional information in respect of their Financial Bid.
- (e) The Bidders who have been sent a Notice shall have the time period specified in the Notice (the "Remedy Period") to remedy the matters identified in the Notice by providing to Canada, in writing, additional information or clarification in response to the Notice. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the Notice.
- (f) In its response to the Notice, the Bidder will be entitled to remedy only that part of its Financial Bid which is identified in the Notice. For instance, where the Notice states that a required line item has been left blank, only the missing information may be added to the Financial Bid, except that, in those instances where the addition of such information will necessarily result in a change to other calculations previously submitted in its Financial Bid, (for example, the calculation to determine a total price), such necessary adjustments shall be identified by the Bidder and only these adjustments shall be made. All submitted information must comply with the requirements of this solicitation.

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- (g) Any other changes to the Financial Bid submitted by the Bidder will be considered to be new information and will be disregarded. There will be no change permitted to any other Section of the Bidder's Bid. Information submitted in accordance with the requirements of this solicitation in response to the Notice will replace, in full, **only** that part of the original Financial Bid as is permitted above, and will be used for the remainder of the bid evaluation process.
- (h) Canada will determine whether the Financial Bid is responsive to the requirements reviewed at Phase I, considering such additional information or clarification as may have been provided by the Bidder in accordance with this Section. If the Financial Bid is not found responsive for the requirements reviewed at Phase I to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase I to the satisfaction of Canada, will receive a Phase II review.

4.1.1.3 Phase II: Technical Bid

- (a) Canada's review at Phase II will be limited to a review of the Technical Bid to identify any instances where the Bidder has failed to meet any Eligible Mandatory Criterion. This review will not assess whether the Technical Bid meets any standard or is responsive to all solicitation requirements. Eligible Mandatory Criteria are all mandatory technical criteria that are identified in this solicitation as being subject to the PBCP. Mandatory technical criteria that are not identified in the solicitation as being subject to the PBCP, will not be evaluated until Phase III.
- (b) Canada will send a written notice to the Bidder (Compliance Assessment Report or "CAR") identifying any Eligible Mandatory Criteria that the Bid has failed to meet. A Bidder whose Bid has been found responsive to the requirements that are reviewed at Phase II will receive a CAR that states that its Bid has been found responsive to the requirements reviewed at Phase II. Such Bidder shall not be entitled to submit any response to the CAR.
- (c) A Bidder shall have the period specified in the CAR (the "Remedy Period") to remedy the failure to meet any Eligible Mandatory Criterion identified in the CAR by providing to Canada in writing additional or different information or clarification in response to the CAR. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the CAR.
- (d) The Bidder's response must address only the Eligible Mandatory Criteria listed in the CAR as not having been achieved, and must include only such information as is necessary to achieve such compliance. Any additional information provided by the Bidder which is not necessary to achieve such compliance will not be considered by Canada, except that, in those instances where such a response to the Eligible Mandatory Criteria specified in the CAR will necessarily result in a consequential change to other parts of the Bid, the Bidder shall identify such additional changes, provided that its response must not include any change to the Financial Bid.

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- (e) The Bidder's response to the CAR should identify in each case the Eligible Mandatory Criterion in the CAR to which it is responding, including identifying in the corresponding section of the original Bid, the wording of the proposed change to that section, and the wording and location in the Bid of any other consequential changes that necessarily result from such change. In respect of any such consequential change, the Bidder must include a rationale explaining why such consequential change is a necessary result of the change proposed to meet the Eligible Mandatory Criterion. It is not up to Canada to revise the Bidder's Bid, and failure of the Bidder to do so in accordance with this subparagraph is at the Bidder's own risk. All submitted information must comply with the requirements of this solicitation.
- (f) Any changes to the Bid submitted by the Bidder other than as permitted in this solicitation, will be considered to be new information and will be disregarded. Information submitted in accordance with the requirements of this solicitation in response to the CAR will replace, in full, **only** that part of the original Bid as is permitted in this Section.
- (g) Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Canada in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Criteria. It will not be used at any Phase of the evaluation to increase or decrease any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Criterion that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Bidder in response to the CAR. If so, the Bid will be considered responsive in respect of such Eligible Mandatory Criterion, and the additional or different information submitted by the Bidder shall bind the Bidder as part of its Bid, but the Bidder's original score, which was less than the mandatory minimum for such Eligible Mandatory Criterion, will not change, and it will be that original score that is used to calculate any score for the Bid
- (h) Canada will determine whether the Bid is responsive for the requirements reviewed at Phase II, considering such additional or different information or clarification as may have been provided by the Bidder in accordance with this Section. If the Bid is not found responsive for the requirements reviewed at Phase II to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase II to the satisfaction of Canada, will receive a Phase III evaluation.

4.1.1.4 Phase III: Final Evaluation of the Bid

- (a) In Phase III, Canada will complete the evaluation of all Bids found responsive to the requirements reviewed at Phase II. Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) A Bid is non-responsive and will receive no further consideration if it does not meet all mandatory evaluation criteria of the solicitation.

4.1.2 Technical Evaluation

The Phased Bid Compliance Process will apply to all mandatory technical criteria.

The mandatory technical criteria that will be evaluated are detailed in *Attachment 1 to Part 4 Mandatory Technical Criteria*.

4.1.3 Financial Evaluation

The total price indicated in Annex B "Basis of Payment" will be evaluated as follow:

(Total Firm Price as per section 1 of Annex B)
+
(Total extended price as per section 2 of Annex B)
=
Total evaluated price of the bid

The Bidder must include a price for each article indicated in Annex B or indicate \$0.00 if the article is included in the total price under another article.

4.1.3.1 Evaluation of Price

The total price of each bid will be established using the following criteria:

- a) Bidders must submit firm prices, Canadian customs duties and excise taxes included, and Applicable Taxes excluded. 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) Bidders must submit their prices Delivered Duty Paid (DDP) destination.

For the purpose of the bid solicitation, bidders with an address in Canada are considered Canadian-based bidders and bidders with an address outside of Canada are considered foreign-based bidders.

4.2 Basis of Selection - Mandatory Technical Criteria

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

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. Unless specified otherwise, 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 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

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

5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real procurement agreement of the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

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](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#)" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#) website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

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](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#)" list at the time of contract award.

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#)" list during the period of the Contract.

Solicitation No. - N° de l'invitation
W7701-176479/B
Client Ref. No. - N° de réf. du client
W7701-17-6479

Amd. No. - N° de la modif.
File No. - N° du dossier
QCW-7-40042

Buyer ID - Id de l'acheteur
QCL042
CCC No./N° CCC - FMS No./N° VME

The Bidder must provide the Contracting Authority with a completed Attachment 1 to Part 5 titled "Federal Contractors Program for Employment Equity – Certification", before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed Attachment 1 to Part 5 "Federal Contractors Program for Employment Equity – Certification", for each member of the Joint Venture.

PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS

6.1 Security Requirements

1. Before award of a contract, the following conditions must be met:
 - (a) the Bidder must hold a valid organization security clearance as indicated in Part 7 - Resulting Contract Clauses;
 - (b) the Bidder's proposed individuals requiring access to classified or protected information, assets or sensitive work sites must meet the security requirements as indicated in Part 7 - Resulting Contract Clauses;
 - (c) the Bidder must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites;
2. Bidders are reminded to obtain the required security clearance promptly. Any delay in the award of a contract to allow the successful Bidder to obtain the required clearance will be at the entire discretion of the Contracting Authority.
3. For additional information on security requirements, Bidders should refer to the [Contract Security Program](http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html) of Public Works and Government Services Canada (<http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html>) website.

PART 7 - RESULTING CONTRACT CLAUSES

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

7.1 Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work at Annex "A" and the Contractor's technical bid entitled _____, dated _____.

7.2 Standard Clauses and Conditions

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

7.2.1 General Conditions

[2030 \(2018-06-21\)](#), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

7.2.2 Supplemental General Conditions

[4001 \(2015-04-01\)](#), Hardware Purchase, Lease and Maintenance, apply to and form part of the Contract.
[4003 \(2010-08-16\)](#), Licensed Software, apply to and form part of the Contract.

7.3 Security Requirements

7.3.1 One of the following security requirements (SRCL and related clauses provided by the Contract Security Program) apply and form part of the Contract.

7.3.1.1 Security Requirement for Canadian Supplier:

1. The Contractor/Offeror must, at all times during the performance of the Contract/Standing Offer, hold a valid Facility Security Clearance at the level of Secret, issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).
2. The Contractor/Offeror personnel requiring access to CLASSIFIED information, assets or sensitive work site(s) must EACH hold a valid personnel security screening at the level of Secret, granted or approved by CISD/PWGSC.
3. The Contractor/Offeror MUST NOT remove any CLASSIFIED information from the identified work site(s), and the Contractor/Offeror must ensure that its personnel are made aware of and comply with this restriction.
4. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.
5. The Contractor/Offeror must comply with the provisions of the:
 - (a) Security Requirements Check List and security guide (if applicable), attached at Annex C
 - (b) Industrial Security Manual (Latest Edition).

7.3.1.2 Security Requirement for Foreign Supplier:

The contractor and/or any and all subcontractors must be from a country with which Canada has an international bilateral industrial security instrument or will have such an instrument with Canada by the end of the bidding period. The Contract Security Program (CSP) has international bilateral industrial security instruments with the countries listed on the following PSPC website: <http://ssi-iss.tpsgc-pwgsc.gc.ca/gvrnmnt/risi-iisr-eng.html>

1. The Foreign recipient **Contractor / Offeror / Subcontractor** shall, at all times during the performance of the **Contract / Standing Offer / Subcontract**, hold a valid Facility Security Clearance (FSC), issued by the NSA/DSA of the supplier's country, at the equivalent level of **SECRET** in accordance with the national policies of **the supplier's country**.
2. All **CANADA PROTECTED** information/assets accessed by the Foreign recipient **Contractor / Offeror / Subcontractor** shall NOT be safeguarded at the Foreign recipient's sites.
3. **CANADA PROTECTED** information/assets shall be released only to Foreign recipient **Contractor / Offeror / Subcontractor** personnel, who have a need-to-know for the performance of the **Contract / Standing Offer / Subcontract** and who have a Personnel Security Clearance at the level of **SECRET**, granted by their respective National Security Authority (NSA) or Designated Security Authority (DSA) of **the supplier's country**, in accordance with national policies of **the supplier's country**.
4. **CANADA PROTECTED** information/assets provided or generated pursuant to this **Contract / Standing Offer / Subcontract** shall not be further provided to a third party Foreign recipient Subcontractor unless:
 - a. written assurance is obtained from the third-party Foreign recipient's National Security Authority (NSA) or Designated Security Authority (DSA) to the effect that the third-party Foreign recipient Subcontractor has been approved for access to **CANADA PROTECTED** information/assets by the third-party Foreign recipient's NSA/DSA; and
 - b. written consent is obtained from the NSA/DSA of **the supplier's country**, if the third-party Foreign recipient Subcontractor is located in a third country.
5. Subcontracts which contain security requirements are **NOT** to be awarded without the prior written permission of their respective National Security Authority (NSA) or Designated Security Authority (DSA), in accordance with the national policies of the **the Supplier's country**.
6. The Foreign recipient **Contractor / Offeror / Subcontractor** shall not use the **CANADA PROTECTED** information/assets for any purpose other than for the performance of the **Contract / Standing Offer / Subcontract** without the prior written approval of the Government of Canada. This approval must be obtained from the Canadian DSA.
7. The Foreign recipient **Contractor / Offeror / Subcontractor** visiting Canadian Government or industrial facilities, under this contract, will submit a Request for Visit form to Canada's Designated Security Authority (DSA) through their respective National Security Authority (NSA) or Designated Security Authority (DSA).
8. The Foreign recipient **Contractor / Offeror / Subcontractor** shall immediately report to the Canadian DSA all cases in which it is known or there is reason to suspect that **CANADA PROTECTED** information/assets pursuant to this **Contract / Standing Offer / Subcontract** has been compromised.
9. The Foreign recipient **Contractor / Offeror / Subcontractor** shall immediately report to its respective National Security Authority (NSA) or Designated Security Authority (DSA) all cases in which it is known or there is reason to suspect that **CANADA PROTECTED** information/assets accessed by the Foreign recipient **Contractor / Offeror / Subcontractor**, pursuant this **Contract / Standing Offer / Subcontract**, have been lost or disclosed to unauthorized persons.
10. The Foreign recipient **Contractor / Offeror / Subcontractor** shall not disclose **CANADA PROTECTED** information/assets to a third party government, person, firm or representative thereof, without the prior written consent of the Government of Canada. Such consent shall be sought through the **recipient's National Security Authority/ Designated Security Authority (NSA/DSA)**.

11. The Foreign recipient **Contractor / Offeror / Subcontractor** shall comply with the provisions of the International bilateral industrial security instrument between **the supplier's country** and Canada, in relation to equivalencies.
12. The Foreign recipient **Contractor / Offeror / Subcontractor** must comply with the provisions of the Security Requirements Check List attached at Annex _____.
13. In the event that a Foreign recipient **Contractor / Offeror / Subcontractor** is chosen as a supplier for this Contract, subsequent Country-Specific Foreign security requirement clauses shall be generated and promulgated by the Canadian DSA, and provided to the Government of Canada Contracting Authority, to ensure compliance with the security provisions, as defined by the Canadian DSA, in relation to equivalencies.

7.4 Term of Contract

7.4.1 Period of the Contract

The period of the Contract is from date of Contract to _____ inclusive (**To be inserted at contract award**).

7.4.2 Delivery Date

All the deliverables must be received on or before _____ (**To be inserted at contract award**).

7.4.3 Delivery Points

Delivery of the requirement will be made to delivery point(s) specified at Annex "A" of the Contract.

7.5 Authorities

7.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Jonathan Hamel
Title: Procurement Specialist
Public Works and Government Services Canada, Acquisitions Branch
Address: 1550, Avenue d'Estimauville, Québec, QC G1J 0C7
Telephone: 418-649-2806
Email: jonathan.hamel@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.

7.5.2 Technical Authority

(This section will be completed at contract award).

The Technical Authority for the Contract is:

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

7.5.3 Contractor's Representative

(This section will be completed at contract award).

7.6 Payment

7.6.1 Basis of Payment – Firm Price

For the Work described in section 6.1, 6.2, 6.3 and 6.4 of the Statement of Work at Annex A:

In consideration of the Contractor satisfactorily completing its obligations under the Contract, the Contractor will be paid a firm price for a cost of \$_____ **(To be inserted at contract award)**. Customs duties are included and Applicable Taxes are extra.

7.6.2 Basis of Payment – Limitation of expenditure

For the Work described in section 6.5 and 6.6 of the Statement of Work at Annex A:

The Contractor will be paid for its costs reasonably and properly incurred in the performance of the Work, in accordance with the Basis of payment in annex B, to a limitation of expenditure of _____\$ **(To be inserted at contract award)**. Customs duties are included and Applicable Taxes are extra.

7.6.3 Limitation of Expenditure

1. Canada's total liability to the Contractor under the Contract must not exceed _____\$ **(To be inserted at contract award)**. Customs duties are included and Applicable Taxes are extra.
2. No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority.

The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:

- a. when it is 75% committed, or
- b. four months before the contract expiry date, or
- c. as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work,

whichever comes first.

3. If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

7.6.4 Method of Payment – Milestone payment

For the portion of the work subject to a firm price, Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract 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.

7.6.4.1 Schedule of milestones

The schedule of milestones for which payments will be made in accordance with the Contract is detailed in Annex B.

7.6.5 Method of Payment – Monthly payment

For the portion of the work subject to a limitation of expenditure, Canada will pay the Contractor on a monthly basis for work performed during the month covered by the invoice in accordance with the payment provisions of the Contract if:

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

7.6.6 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s): **(To be inserted at contract award)**

- a. Direct Deposit (Domestic and International);
- b. Wire Transfer (International Only);

7.7 Invoicing Instructions

7.7.1 Invoicing instructions – Work subject to a firm price

1. The Contractor must submit a claim for progress payment using form PWGSC-TPSGC 1111 (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/1111.pdf>), 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.
2. Applicable Taxes must be calculated on the total amount of the claim before. At the time the holdback is claimed, there will be no Applicable Taxes 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 certification.

ATTN: Procurement Support Clerk - Claim
Public Works and Government Services Canada
601-1550 D'Estimauville
Québec, QC.
G1J 0C7

The Contracting Authority will then forward the original and one (1) copie 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.

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

7.7.2 Invoicing instructions – Work subject to a limitation of expenditure

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

Each invoice must be supported by:

- a. a copy of time sheets to support the time claimed;
 - b. a copy of the release document and any other documents as specified in the Contract;
 - c. a copy of the invoices, receipts, vouchers for all direct expenses, and all travel and living expenses;
2. Invoices must be distributed as follows:
 - a. The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.
 - b. One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

7.8 Certifications and Additional Information

7.8.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

7.8.2 Federal Contractors Program for Employment Equity - Default by the Contractor

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "[FCP Limited Eligibility to Bid](#)" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

7.9 Applicable Laws

(This section must be completed by the Bidder.)

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

7.10 Priority of Documents

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

- (a) the Articles of Agreement;
- (b) the supplemental general conditions [4001 \(2015-04-01\)](#), Hardware Purchase, Lease and Maintenance;
- (c) the supplemental general conditions [4003 \(2010-08-16\)](#), Licensed Software;
- (d) the general conditions [2030 \(2018-06-21\)](#), Higher Complexity – Goods;
- (e) Annex A, Statement of Work;
- (f) Annex B, Basis of Payment;
- (g) Annex C, Security Requirements Check List;
- (h) the Contractor's bid dated _____ .

7.11 Defence Contract

SACC Manual clause [A9006C \(2012-07-16\)](#), Defence Contract

7.12 SACC Manual Clauses

[C2000C](#) (2007-11-30), Taxes – Foreign-based Contractor
[C0305C](#) (2008-05-12), Cost Submission - Limitation of Expenditure or Ceiling Price
[A9117C](#) (2007-11-30), T1204 - Direct Request by Customer Department
[C0705C](#) (2010-01-11), Discretionary Audit
[A9068C](#) (2010-01-11), Government Site Regulations
[B1501C](#) (2006-01-16), Electrical Equipment

7.13 Foreign Nationals

One of the two following clauses will apply to and form part of the resulting contract.

SACC Manual clause [A2000C](#) (2006-06-16) Foreign Nationals (Canadian Contractor)
OR
SACC Manual clause [A2001C](#) (2006-06-16) Foreign Nationals (Foreign Contractor)

7.14 Insurance Requirements

[G1005C](#) (2016-01-28), Insurance – No Specific Requirement

ANNEX A

REQUIREMENT

1. TITLE

FLIGHT MOTION SIMULATOR SYSTEM

2. BACKGROUND

To conduct hardware-in-the-loop testing of tracking sensors, DRDC Valcartier seeks procurement of a FMS system to simulate the motion of a UUT and incoming EO/IR scene.

3. ACRONYMS

AD	Applicable Document
AFT	Distance from center of rotation to the rear of UUT
CDR	Critical Design Review
CI	Control Interface
DOF	Degree of Freedom
DRDC	Defence Research and Development Canada
EO	Electro-optical
FOV	Field of View
FMS	Flight Motion Simulator
GFE	Government Furnished Equipment
GSM	Government Supplied Materiel
IP	Intellectual Property
IR	Infrared
NLT	No Later Than
PDR	Preliminary Design Review
SOR	Statement of Requirement
TA	Technical Authority
TRR	Test Readiness Review
UUT	Unit Under Test

4. APPLICABLE DOCUMENTS & REFERENCES

None.

5. FMS SYSTEM TECHNICAL REQUIREMENTS

Design, provide and deliver to DRDC – Valcartier Research Center, a Flight Motion Simulator (FMS) system.

5.1 General system requirements

5.1.1 As pictured in Figure 1, the FMS system must include: a mount to simulate the 3-DOF angular motion of the UUT (UUT mount); a mount for relay mirrors (Scene relay mount) to simulate 2-DOF angular motion of a scene produced by a static projector; a console to interface, power, configure and control the system (Power and control consoles); and all the necessary interconnect cables. The EO/IR scene projector, represented in Figure 1 for completeness, is not part of the FMS system to be delivered;

- 5.1.2 The system must allow to easily and repeatably mount and dismount the UUT from the UUT mount;
- 5.1.3 The interconnect cables length must be at least 8 m;
- 5.1.4 Each axis must contain limit switches to disable axis drive at the axis travel limit;
- 5.1.5 The FMS must have adjustable shocks and stops on all axes except roll. Shocks and stops must be capable of arresting gimbals motion at full axis performance with maximum installed axis load, without inflicting damage to the FMS or the axis load;
- 5.1.6 The FMS system must be designed such that the failure of line power, or activation of the safety switch by the operator, turns off the system without producing damaging motion and requires operator action to re-activate the system;
- 5.1.7 The FMS and its subsystems must be designed to limit electromagnetic interference (EMI) or radio frequency interference (RFI) into the unit under test (UUT), slip ring package, laboratory system, and facility power grid. High performance filters must be utilized where practical to minimize EMI/RFI;
- 5.1.8 All FMS system components must be of a manufacturer/model having a well-established track record for dependability, durability and trouble free operation in an industrial environment. The contractor must perform due diligence to ensure no FMS components are used that are nearing the end of their manufacturing life cycle or are scheduled for revision.

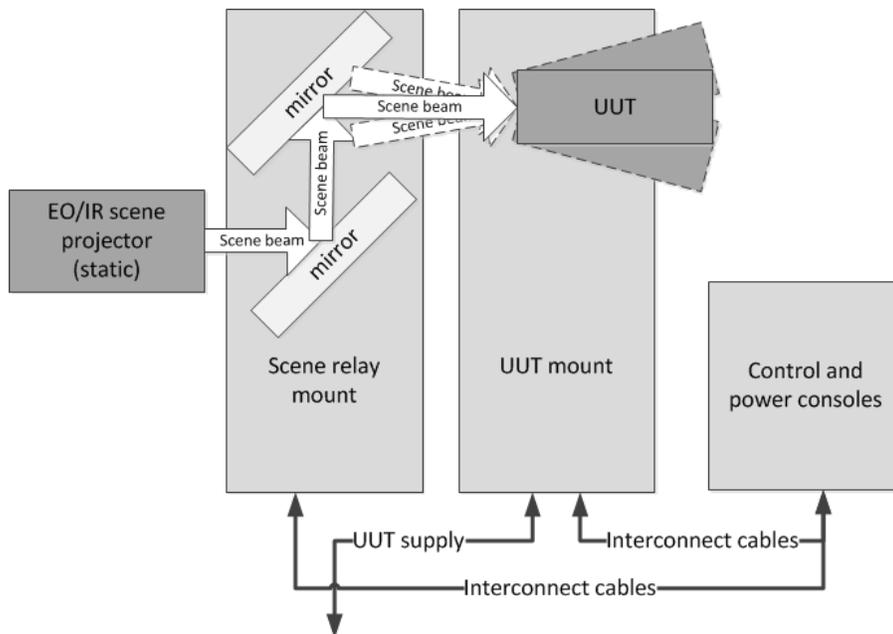


Figure 1: FMS system diagram.

5.2 UUT mount

- 5.2.1 The UUT mount must move, support, and provide the required interfaces to payloads having the characteristics described below. Characteristics and performance requirements for the UUT mount are provided for two payload types.

5.2.2 Payloads description:

**Note: payloads are divided in two types having different sizing and performance requirements: type A, continuous rolling and type B, non-continuous rolling;*

**Note: in the specifications below, the "+/-" symbol refer to both side of the center axis;*

**Note: in the mechanical characteristics below, values includes the UUT's electrical connectors and excludes the mounting fixtures.*

5.2.2.1 Type A UUTs:

Diameter: 75 mm;

AFT: 350 mm;
Mass: 2 kg;
Inertias:
 $I_{pitch} = I_{yaw} = 0.015 \text{ kgm}^2$ (at center of gravity);
 $I_{pitch} = I_{yaw} = 0.06 \text{ kgm}^2$ (at center of rotation);
 $I_{roll} = 0.002 \text{ kgm}^2$;
Beam aperture: 100 mm;

5.2.2.2 Type B UUTs:

Diameter: 260 mm;
AFT: 650 mm;
Mass: 10 kg;
Inertias:
 $I_{pitch} = I_{yaw} = 0.3 \text{ kgm}^2$ (at center of gravity);
 $I_{pitch} = I_{yaw} = 1.5 \text{ kgm}^2$ (at center of rotation);
 $I_{roll} = 0.06 \text{ kgm}^2$;
Beam aperture: 125 mm.

5.2.3 Payload interface:

5.2.3.1 The UUT supply (electrical and gas) must be routed through the UUT mount base (i.e. no loose cables to the UUT);

5.2.3.2 Mechanical Interface:

- The UUT must be supported by tabletop and collet fixtures;
- The UUT must be mountable from the front;
- For each UUT types, mounting fixtures must be provided to mount UUTs of two (2) different sizes, with exact format to be provided by DRDC;

5.2.3.3 Electrical Interface:

- At least 40 ways, 2 A @ 150VDC, plus at least 10 ways 5 A @ 150VDC;
- Connector centered at the rear of the UUT;
- Connector format to be provided by DRDC;

5.2.3.4 High pressure nitrogen interface:

- All metallic tubing;
- Allowable pressure: at least 3500psi;
- Connector format to be provided by DRDC.

5.2.4 Motors type:

5.2.4.1 The UUT mount must use electrical motors for all three axes.

5.2.5 Payload adaptability:

5.2.5.1 The UUT mount must be usable with payloads having the typical mechanical characteristics for each UUT type described above, and must be easily adaptable (e.g. mechanical balance) to operate with smaller or lighter payloads;

5.2.5.2 It must be possible to add optional spacers to allow UUTs with larger AFTs (at the cost of decreased performances);

5.2.5.3 The objective is to have a single roll drive delivered with the system, however multiple roll drives may be supplied if it is not cost effective to supply a single drive that meets requirements for both UUT types.

5.2.6 Performance requirements (with the typical payloads specified above):

5.2.6.1 The UUT mount must move the payload according to the pitch, yaw and roll axes following real-time external commands. All axes must produce smooth, stable, repeatable performance over the full range of motion with any of the payloads installed.

The placement of the pitch and yaw axes relative to the middle and outer axis is left to the contractor's decision based on the most cost-effective solution to meet the system requirements on performance, physical interaction with the scene relay mount, and UUT mounting and unmounting ease.

5.2.6.2 Minimal UUT mount performances for Type A UUTs:

**Note: the "+/-" symbol refer to both drive directions;*

**Note: the values are minimum performance requirements (higher performances are acceptable);*

- Angular travel:
 - pitch axis: +/- 20 °;
 - yaw axis: +/- 40 °;
 - roll axis: continuous;
- Angular precision (all axes): +/- 0.005 °;

- Angular rate:
 - pitch axis: +/- 200 °/s;
 - yaw axis: +/- 300 °/s;
 - roll axis: +/- 7200 °/s;
- Angular acceleration:
 - pitch axis: +/- 1000 °/s²;
 - yaw axis: +/- 3500 °/s²;
 - roll axis: +/- 7200 °/s²;
- Bandwidth (all axes): 20 Hz;

5.2.6.3 Minimal UUT mount performances for Type B UUTs:

**Note: the "+/-" symbol refer to both drive directions;*

**Note: the values are minimum performance requirements (higher performances are acceptable);*

- Angular travel:
 - pitch axis: +/- 20 °;
 - yaw axis: +/- 40 °;
 - roll axis: +/- 90 °;
- Angular precision (all axes): +/- 0.005 °;
- Angular rate:
 - pitch axis: +/- 200 °/s;
 - yaw axis: +/- 300 °/s;
 - roll axis: +/- 200 °/s;
- Angular acceleration:
 - pitch axis: +/- 1000 °/s²;
 - yaw axis: +/- 3500 °/s²;
 - roll axis: +/- 2000 °/s²;
- Bandwidth (all axes): 20 Hz.

5.3 Scene relay mount

5.3.1 The scene relay mount must hold and move (i.e. rotate and/or translate) relay mirrors in order to direct the output beam from a scene projector onto the UUT sensor aperture (located at center pivot point of the UUT mount);

5.3.2 The scene relay mount must include the mirrors and their supporting frames;

5.3.3 The scene relay mount must move the mirrors to produce an apparent 2-DOF angular motion of the scene (azimuth and elevation) as seen from the UUT sensor aperture;

5.3.4 The scene relay mount must move the two mirrors simultaneously such that the scene beam remains centered on the UUT sensor aperture while the angular motion is produced.

5.3.5 Motors type:

5.3.5.1 The scene relay mount must use electrical motors for the two axes of each mirror.

5.3.6 Geometrical configuration:

- 5.3.6.1 The mirrors configuration must accommodate a stand-off distance of 1050 mm or less;
**Note: The stand-off distance is defined as the optical path length from the scene projector aperture to the UUT sensor aperture (see Fig. 2);*
- 5.3.6.2 As represented on Fig. 2, the mirrors configuration must redirect, without obscuration, the complete scene beam from the scene projector aperture to the UUT sensor aperture:
- Scene projector aperture: 285 mm;
 - UUT sensor aperture: 100 mm;
- 5.3.6.3 The exact geometrical configuration of the Scene relay mount is not directly specified to leave maximum design flexibility to the Contractor.

5.3.7 Performance requirements:

- 5.3.7.1 The Scene relay mount must produce apparent angular motion of the scene following real-time external commands;
- 5.3.7.2 Minimal Scene relay mount performances:
**Note: the "+/-" symbol refer to both drive directions vs. the center axis;*
**Note: the values are minimums performance requirements (higher performances are acceptable);*
**Note: angular values below describe angular motion of the scene produced by the combined action of the 2-mirror set, as viewed from the UUT sensor aperture position (see Fig. 3);*
- Angular travel:
 - azimuth axis: +/- 8 °;
 - elevation axis: +/- 8 °;
 - Angular precision (all axes): +/- 0.005 °;
 - Angular rate:
 - azimuth axis: +/- 50 °/s;
 - elevation axis: +/- 50 °/s;
 - Angular acceleration:
 - azimuth axis: +/- 300 °/s²;
 - elevation axis: +/- 300 °/s²;
- 5.3.7.3 The angular travel specified above is for simulation case, but it must also be possible to direct the projector's beam to a secondary sensor located outside of the UUT mount (e.g. to calibrate the scene projector).

5.3.8 Mirrors requirements:

- 5.3.8.1 The mirrors dimensions must satisfy the provided geometrical configuration (5.3.6) and performance requirements (5.3.7). They are not directly specified to leave maximum flexibility to the contractor for the opto-mechanical configuration;
- 5.3.8.2 The mirrors must be removable for servicing or replacement by mirrors with different properties;
- 5.3.8.3 Mirrors optical specification:
- Surface flatness: $\lambda/4$ per inch at 632.8 nm;
 - Scratch/Dig (after coating): 60/40;
 - Substrate: BK7, fused silica, or zerodur;
 - Thickness: > 1 cm;
 - Coating: protected silver;
 - Reflectivity: higher than 97% at 45deg incidence for wavelengths 2 um to 5.5 um.

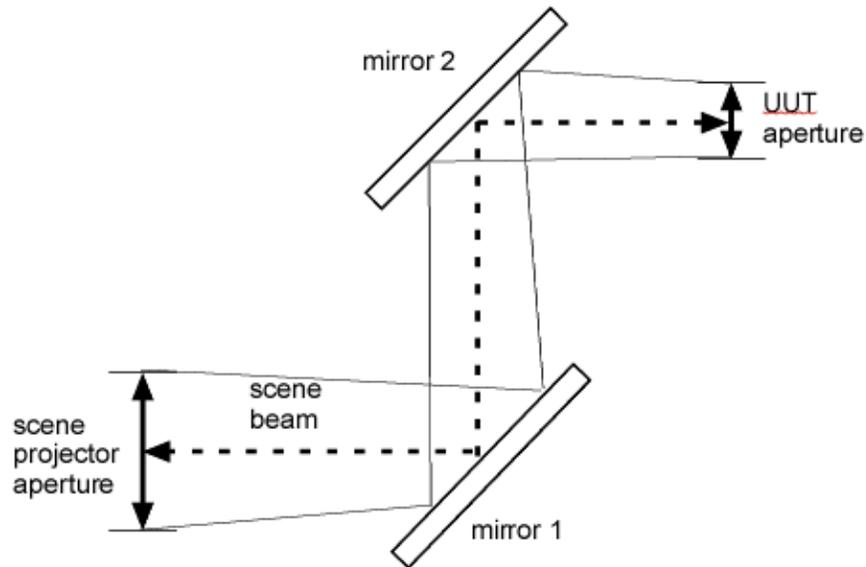


Figure 2: Scene beam size diagram (stand-off distance shown in dashed).

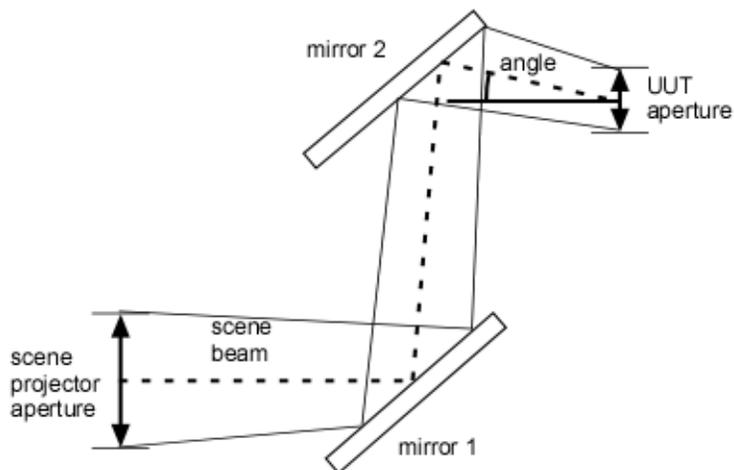


Figure 3: Scene beam size diagram showing both mirrors tilted to produce maximum angular travel on the vertical axis.

5.4 Power and control consoles

5.4.1 The power and control consoles must include the following:

- 5.4.1.1 Cabinet housing;
- 5.4.1.2 Control Interface (CI) for control and configuration of the system;
- 5.4.1.3 Digital motion controllers for all drive units;
- 5.4.1.4 Power amplifiers for all drive units.

5.4.2 Performance requirements:

5.4.2.1 The power system must be sufficient for continuous operation of the pitch, yaw, azimuth, and elevation axes simultaneously at maximum velocity sine wave response with continuous roll at maximum velocity.

**Note: Maximum velocity sine wave response is defined as sinusoidal motion for the maximum travel range and reaching maximum velocity at the midpoint of travel;*

5.4.2.2 The CI and digital controller must not limit the system performance and must allow the performance requirements listed in the UUT mount and Scene relay mount Sections;

5.4.2.3 The CI must accept commands and provide feedback and status for all axes at frame rates up to at least 2.5 kHz.

**Note: A frame is defined as a digital data communications cycle where the controller accepts new axes commands from the simulation computer, the controller processes and outputs the new servo command solution to the axes, and the controller sends new axes feedback and status information to the simulation computer;*

5.4.2.4 The CI must be able to adapt to the frame rate of the host simulation computer.

5.4.3 CI characteristics:

5.4.3.1 The CI must integrate and allow to control all drive units;

5.4.3.2 The CI must have a means of readily and efficiently replacing the storage media;

5.4.3.3 The CI must allow automatic clock synchronization with DRDC's host simulation computer;

5.4.3.4 The CI must have an operator interface allowing the operator to:

- Completely configure, tune and operate all aspects of the CI;
- Monitor the system states;

5.4.3.5 The CI must have a means of checking and preventing invalid modes of operation, invalid commands and invalid values from being entered and acted upon;

5.4.3.6 The CI must have analog (BNCs) connectivity for non-real-time external control and monitoring of each DOF state (position, rate, and acceleration);

5.4.3.7 The CI must have shared memory connectivity for real-time external control and monitoring of each DOF state (position, rate, and acceleration);

5.4.3.8 The CI must have Ethernet connectivity for non-real-time control and monitoring of each DOF state (position, rate, and acceleration), communications, transfer of logged data files, and backup of all parameters and configuration files;

5.4.3.9 The CI must allow logging, playback, import, and export of the system states and commands (at least 60 variables) for a given simulation sequence;

5.4.3.10 The CI must allow the user to create, store, name and retrieve configuration files containing all parameters required to retrieve particular FMS performance criteria. When loaded, the configuration file must completely restore all system configuration parameters;

5.4.3.11 The CI must have built-in capability to properly and completely configure, compensate and tune the system without requiring external equipment or software. This includes the ability to:

- Calibrate of the whole system;
- Correct for deterministic and harmonic errors;
- Assist the user in balancing of the FMS according to the actual UUT being loaded;
- Perform periodic scripted calibration testing;

5.4.3.12 The CI must have an emergency stop button;

5.4.3.13 The CI must allow to set user defined limits on travels, rates, and accelerations on each axis;

5.4.3.14 The CI must have at least the following operation modes:

- Manual mode - where the axes motion are controlled directly at the operator interface;
- Programmed mode - where the axes motion are programmed directly at the operator interface according to set of waveforms (such as logarithmic swept sinusoids for example);
- Analog mode - where the axes motion are controlled via the analog inputs;
- Digital mode - where the axes motion are controlled via the Ethernet or shared memory interface;
- Simulation mode - where the CI can be used in the above mentioned modes but without prime drive

power being applied to the FMS to assist users in developing and testing applications that drive FMS. This mode must replicate FMS axes performance as if prime drive power was applied and must update the CI GUI, shared memory, and Ethernet information as if the FMS is realistically responding to motion commands. This mode must be available with the CI being physically disconnected from the UUT mount and scene relay mount.

5.4.3.15 The CI must have at least the following motion types:

- Position Motion: The axes servo to a commanded position;
- Rate Motion: The axes servo at a commanded rate;
- Acceleration Motion: The axes servo at a commanded acceleration;
- Rate-To-Position Motion: The axes servo to a commanded position at a commanded rate;
- Acceleration-To-Rate Motion: The axes servo at a commanded acceleration to a commanded rate;
- Position-Rate-Acceleration Motion: The axes servo at a commanded acceleration and rate to a commanded position;

5.4.3.16 The CI must include proper documentation and example code for each of the connectivity protocol and programmable capabilities described above.

6. TASK

6.1 Preliminary Design review (PDR)

The Contractor must:

- 6.1.1 Prepare and hold a PDR meeting, at which time the preliminary design of each component of the FMS system will be reviewed. The preliminary design should be a detailed initial iteration of the design of the FMS System, with critical data determined;
- 6.1.2 Provide the Technical Authority with the design files of the full system at the PDR stage (system design and performance analysis);
- 6.1.3 Invite DRDC with twenty (20) business days warning to prepare travel for PDR meeting.

6.2 Critical Design Review (CDR)

The Contractor must:

- 6.2.1 Prepare and conduct a CDR meeting, at which time the detailed design of the FMS System and its interfaces will be reviewed. The purpose of this review is to demonstrate that the detailed design meets all the system, interface and design requirements and is feasible within the cost and schedule constraints, and that the project is ready to proceed with the manufacturing production;
- 6.2.2 Provide the Technical Authority with the design files of the full FMS at the CDR stage (system design and performance analysis);
- 6.2.3 Invite DRDC with twenty (20) business days warning to prepare travel for CDR meeting.

6.3 Test Readiness Review (TRR)

The Contractor must

- 6.3.1 Prepare and conduct a Test Readiness Review (TRR) where the system performances will be characterised and demonstrated for acceptance by the Technical Authority;
- 6.3.2 Seek approval by the Technical Authority to proceed with acceptance testing. The test results must demonstrate the acceptability of the FMS System;
- 6.3.3 Invite DRDC with twenty (20) business days warning to prepare travel for witnessing the test at the contractor's facility;
- 6.3.4 Produce a system characterization report describing acceptance test procedures and test results.

6.4 Installation, commissioning and initial training

The contractor must:

- 6.4.1 Perform the uncrating and installation, at DRDC-Valcartier site;

- 6.4.2 In order for DRDC to start interfacing the Control Interface as soon as possible, the contractor must deliver the Control Interface (or an equivalent loan unit) before the full FMS system is completed;
- 6.4.3 Perform verification testing of the FMS system conformity after delivery;
- 6.4.4 Provide formal training at DRDC-Valcartier site on system operation and maintenance at the completion of on-site installation and verification testing;
- 6.4.5 All training and documentation must be provided in English or French.

Note: The Technical Authority will communicate with the Contractor, at least 2 weeks beforehand, to agree on the dates and times of the on-site installation and formal training.

6.5 Annual preventative maintenance and calibration

The contractor must:

- 6.5.1 Provide annual preventative maintenance and calibration over a 5-year period. A 12 months interval will separate each annual servicing (maintenance and calibration);
- 6.5.1.2 The Technical Authority will communicate with the Contractor, at least 2 weeks beforehand, to agree on the date and time of the annual preventative maintenance and calibration;
- 6.5.1.3 The annual preventative maintenance and calibration must include all the labour, consumable materials and tools required to ensure and validate that the system performs according to its initial state.

6.6 On-demand service call for repair, improvement, modification

- 6.6.1 The contractor must provide on-demand repair, improvement and modification services at the request of the Technical Authority within the following time limits:

Routine labour:

Monday to Friday (except statutory holidays) from 7:30 AM to 4:00 PM within ten (10) business days of the request by the Technical Authority.

Emergency repair:

Emergency repair service will be available on site at all times throughout the period of the contract, within 72 hours of the request by the DND representative. Only the Technical Authority will have the privilege of assessing the urgency of the work.

- 6.6.2 The scope of the work performed on-demand must not supersede and/or replace the Contractor's responsibility under section 6.5 of the Annex A;
- 6.6.3 Before starting any repair, improvement or modification, the Contractor must provide a free estimate (written or verbal, depending on the situation) within 15% of the total cost of the work to be made and obtain authorization from the Technical Authority prior to performing the repair;
- 6.6.4 Repair work caused by preventative maintenance, considered inadequate or as a result of the Contractor's negligence will be performed by the Contractor at no additional cost to DRDC;
- 6.6.5 At the request of the Technical Authority, any defective parts must be given to him/her for inspection. The contractor must then dispose of said parts outside DRDC property;
- 6.6.6 All repair, modification or improvement will be coordinated by the DRDC Technical Authority, who will act as the intermediary between the Contractor and the end users of the devices;
- 6.6.7 Labour on all repair, modification or improvement will be guaranteed for a three-month period.

7. DELIVERABLES

Deliverable #	Task	Description of deliverable	Quantity and Format	Delivery Date
1	6.1	All the design files of the full system at the PDR stage (system design and performance analysis); The PDR presentation; The PDR meeting's minutes.	3 soft copy on DVD	NLT 3 months after contract award
2	6.2	All the design files of the full system at the CDR stage (system design and performance analysis); The CDR presentation; The CDR meeting's minutes.	3 soft copy on DVD	NLT 6 months after contract award
3	6.3	System characterization report including acceptance test procedures and test results; All the "as-built" plan and documentation; All test reports and minutes.	3 soft copy on DVD	NLT 1 week after the TRR
4A	6.4.2	The FMS System Control Interface	1	NLT 8 months after contract award.
4B	6.4	The complete FMS System including the following non-exhaustive list of items: UUT mount; Scene relay mount; Power and control consoles; Control software; All the cabling.	1	NLT 14 months after contract award.
5	6.4	The complete documentation on the FMS system; Results of verification of conformity testing; System operation and maintenance manuals; Training documentation; Certificate of Origin.	3 soft copy on DVD	NLT 14 months after contract award.
6	6.5	A maintenance and calibration report detailing all the work performed by the contractor; If applicable, a free estimate of all work to be performed or parts to be replaced that is not covered by the warranty or the annual maintenance and calibration.	1 soft copy on DVD or 1 hard paper copy	NLT 1 week after completion of each annual maintenance and calibration.
7	6.6	Applicable deliverables can be, but are not limited to: A report detailing all the work performed by the contractor; New or modified system parts; A free estimate (written or verbal, depending on the situation) within 15% of the total cost of the work.	1 soft copy on DVD or 1 hard paper copy	N/A

8. LANGUAGE OF WORK

English or French

Solicitation No. - N° de l'invitation
W7701-176479/B
Client Ref. No. - N° de réf. du client
W7701-17-6479

Amd. No. - N° de la modif.
File No. - N° du dossier
QCW-7-40042

Buyer ID - Id de l'acheteur
QCL042
CCC No./N° CCC - FMS No./N° VME

9. DELIVERY LOCATION

Defence Research and Development Canada – Valcartier Research Centre
Building 53
2459 route de la Bravoure
Québec, Québec
G3J 1X5
Canada

ANNEX B

**BASIS OF PAYMENT AND
SCHEDULE OF MILESTONES**

1. For the work describe at section 6.1, 6.2, 6.3 and 6.4 of Annex A – Statement of Work

1.1 Terms and conditions

Provide a firm price, including the provision for all labour, equipment, materials, transportation and anything else needed for the complete and compliant performance of the work.

1.2 Total Firm Price CAN \$ _____ \$
(Taxes extra, if applicable)

1.3 Milestones

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

No	Milestone	Deliverables	% of Total Price of section 1.2 of Annex B	Date (months after contract award)
1	PDR	1	10 %	3
2	CDR	2	15 %	6
3	TRR	3	15 %	12
4	Delivery of the Control Interface	4A	10 %	8
5	Final delivery, installation and training	4B	45 %	14
6	Results of on-site verification of conformity testing	5	5 %	14

2. For the work describe at section 6.5 of Annex A – Statement of Work

2.1 Terms and conditions

Provide a unit price, including the provision for all labour, equipment, materials, transportation and anything else needed for the complete and compliant performance of the work.

2.2 Unit Prices for each preventative maintenance and calibration

Description	Unit Prices	Quantity	Extended price
For the provision of annual maintenance and calibration in conformity with section 6.5 of Annex A – Statement of work	_____ \$	5	_____ \$

3. For the work describe at section 6.6 of Annex A – Statement of Work (hourly rate)

3.1 Hourly rates - Terms and conditions

Submit hourly rates as requested in the table at section 3.1.1 for the provision of on-demand services.

Rates submitted must include supervision, tools and equipment usually required for the performance of the type of work covered by the contract.

No minimum number of consecutive hours of work will be guaranteed by DRDC. Labour will be paid only for the hours worked in addition to any applicable transportation costs.

3.1.1 Hourly rates

Hourly rate	A	B
Technician/Specialist for the <u>first</u> year of the contract	\$_____/hour	\$_____/hour
Technician/Specialist for the <u>second</u> year of the contract	\$_____/hour	\$_____/hour
Technician/Specialist for the <u>third</u> year of the contract	\$_____/hour	\$_____/hour
Technician/Specialist for the <u>fourth</u> year of the contract	\$_____/hour	\$_____/hour
Technician/Specialist for the <u>fifth</u> year of the contract	\$_____/hour	\$_____/hour

A: Rates for work performed during regular hours (from 7:30 a.m. to 4:00 p.m., Monday through Friday)

B: Rates for work performed outside regular hours (Monday through Saturday)

3.2 Transportation time – Terms and conditions

Indicate the transportation time (in hours) requested for each services call or for each day of work performed as part of a service call to cover all costs from all sources associated with the round trip transportation of workers to the work site (including vehicles, gas, tools and everything associated with the work)

IMPORTANT NOTE: Transportation costs will be paid only for service calls on demand (at the hourly rate) and not for annual maintenance and calibration.

The amount indicated will be applicable to each worker and multiplied by the hourly rate submitted at section 3.1.1 of Annex B.

If no transportation costs are requested, indicate "0".

3.2.1 Transportation time (round trip)

Work site	Time requested
DRDC-Valcartier	_____ Hour(s)

3.3 Materials and products – Terms and conditions

Submit a mark-up percentage (%) applicable to the purchase price by the contractor to its supplier for the supply of materials and products.

This rate must cover the mark-up percentage applicable to the price paid by the contractor for administration expenses and profit.

The Contractor must take all necessary steps to purchase spare parts and products at the best possible price.

On request by the Technical Authority, the Contractor must provide, together with its invoice, a copy of the invoice showing the price paid by the Contractor to the supplier.

3.3.1 Mark-up percentage

Administration and profit	_____%
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Solicitation No. - N° de l'invitation
W7701-176479/B
Client Ref. No. - N° de réf. du client
W7701-17-6479

Amd. No. - N° de la modif.
File No. - N° du dossier
QCW-7-40042

Buyer ID - Id de l'acheteur
QCL042
CCC No./N° CCC - FMS No./N° VME

ANNEX C

SECURITY REQUIREMENTS CHECK LIST

The Security Requirement Check List (SRCL), appended to the bid solicitation package is to be inserted at this point and forms part of this document.

Attachment 1 to Part 3

Technical Bid Preparation Instructions

1.1 TECHNICAL BID

The details provided in this Attachment complement the information introduced in Part 3 – Bid Preparation Instructions.

The Bidder should present the information about the Technical Bid in the following order:

1. Title / Project Identification Page (see 1.2);
2. Table of Contents (see 1.3);
3. Technical Section (see 1.4);
4. Bid Appendices (see 1.5).

The structure of the Technical Bid and its subsections are described below.

1.2 Title/Project Identification Page

The first page of the bid submitted should state the following information:

- a) The Request for Proposal file number;
- b) The company's name and address;
- c) The company's Procurement Business Number (PBN);
- d) The title of the proposed Work (the use of acronyms in the title is discouraged, unless they are described).

1.3 Table of Contents

The table of contents should be formatted such that its headings are linked to their respective location in the bid for ease of reference when using the bid's Soft copy version.

1.4 Technical Section

The Technical bid should be a detailed description where the bidder demonstrates its conformity with every technical aspect of the requirement.

The Bidder should demonstrate its conformity with the Mandatory Evaluation Criteria as per the following subsections.

1.4.1 Mandatory Evaluation Criteria M1

The Bidder should, for each project, submit the following information:

- a) Client Organization Name;
- b) Address;
- c) Contract or Purchase Order Number;
- d) Contract of Project title;
- e) Point of contact Name and Title;
- f) Point of contact telephone Number;
- g) Point of contact Email Address;
- h) A detailed description of the project;
- i) The start and end date (mm/yyyy to mm/yyyy)

Whether or not to conduct reference checks with the bidder's client by Canada is discretionary.

1.4.2 Mandatory Evaluation Criteria M2

In order to demonstrate that the bid is compliant with the mandatory evaluation criteria M2, the Bidder should provide, a drawing and/or a technical sheet and/or a document describing the proposed system.

The Bidder should also use the TABLE 1 – FMS SYSTEM REQUIREMENTS FOR EVALUATION, located at attachment 1 to part 4 to demonstrate its compliance with this mandatory evaluation criteria.

Although the bidder must propose a system design that meets every technical requirements of Annex A, only the technical requirements stated at criteria M2 will be evaluated to determine if the bid is responsive.

1.5 Bid Appendices

The following items should be addressed in individual appendices as part of the bid:

- a) List of Acronyms: All the acronyms used in Section I: Technical Bid, should be explained;
- b) List of Contacts: The list of contacts should be appended to Section I: Technical Bid, in a format suitable for distribution and should include all the Bidder's points-of-contact involved in the bid development and/or during the Contract.

The following example format should be used:

Table 1.5: Bidder's List of Contacts

Role	Name	Telephone	E-Mail
Project manager			
Project engineers			
Contractor's representative			
Claims (Invoicing) Officer			
Other			

Solicitation No. - N° de l'invitation
W7701-176479/B
Client Ref. No. - N° de réf. du client
W7701-17-6479

Amd. No. - N° de la modif.
File No. - N° du dossier
QCW-7-40042

Buyer ID - Id de l'acheteur
QCL042
CCC No./N° CCC - FMS No./N° VME

Attachment 2 to Part 3

Electronic payment instruments

The Bidder accepts to be paid by any of the following Electronic Payment Instrument(s):

- Direct Deposit (Domestic and International);
- Wire Transfer (International Only);

Attachment 1 to Part 4

Mandatory Evaluation Criteria

1. MANDATORY EVALUATION CRITERIA

These criteria are deemed mandatory by DRDC as the minimum necessary competence and capability for undertaking the work. Mandatory requirements are evaluated on a pass or fail basis and they will be evaluated very strictly as to compliancy. Therefore, no rating is associated with them. Proposals not meeting all mandatory criteria will be deemed non-responsive.

Bidder Experience

Except where expressly provided otherwise, the experience described in the bid must be the experience of one or more of the following:

1. The Bidder itself (which includes the experience of any companies that formed the Bidder by way of a merger but does not include any experience acquired through a purchase of assets or an assignment of contract); or
2. The Bidder's affiliates (i.e. parent, subsidiary or sister corporations), provided the Bidder identifies and demonstrates the transfer of know-how, the use of toolsets and the use of key personnel from the affiliate for the applicable criterion; or
3. The Bidder's subcontractors provided the Bidder includes a copy of the teaming agreements and identifies the roles and responsibilities of all parties under the agreement and how their work will be integrated.

The experience of the Bidder's suppliers will not be considered.

M1:

The Bidder must have demonstrated experience¹ in design, manufacture and test of at least 5 units of Flight Motion Simulator systems displaying the project-like fields of similar complexity listed hereunder.

This criterion assesses the Bidder's experience and expertise in similar projects and how the Bidder has been active in the business related to the technology being procured. The Bidder must provide a description of previous, or current, similar or related projects along with references to demonstrate that the projects are similar or related to the Work that is the subject of this RFP. The projects have to be advanced enough to demonstrate that the design, manufacturing and testing phases are completed. Each project must meet at least 2 fields of similar complexity.

Experience must be demonstrated for each of the following fields of similar complexity of the Flight Motion Simulator projects:

- **Based on custom requirements (at least 3 projects); and,**
- **3 axes or more with electrical motor drives (at least 3 projects); and,**
- **3 axes or more with digital controllers (at least 3 projects); and**
- **With high speed (at least 7000 deg/sec) roll axis (at least 3 projects).**

1: *Demonstrated experience* is defined as an experience acquired within 5 years from the original bid closing date of this request for proposals.

M2: The Bidder must demonstrate that the proposed Flight Motion Simulator System will meet all mandatory system requirements provided below at Table 1

The Bidder must provide a compliance statement and the reference to its technical bid in its proposal for each mandatory requirement identified in Table 1- FMS Systems Requirements for Evaluation.

TABLE 1 – FMS SYSTEM REQUIREMENTS FOR EVALUATION		
Section of Annex A- Statement of Work	Mandatory requirement	Technical bid reference (Page and/or Section)
5.1.1	As pictured in Figure 1 (of Annex A), the FMS system must include: a mount to simulate the 3-DOF angular motion of the UUT (UUT mount); a mount for relay mirrors (Scene relay mount) to simulate 2-DOF angular motion of a scene produced by a static projector; a console to interface, power, configure and control the system (Power and control consoles); and all the necessary interconnect cables.	
5.2.6.2 and 5.2.6.3	*Minimal UUT mount performances for Type A UUTs And *Minimal UUT mount performances for Type B UUTs	
5.3.6 and 5.3.7	*Minimal Scene relay mount configuration and performances	
5.4.2.3	*The Control Interface (CI) must accept commands and provide feedback and status for all axes at frame rates up to at least 2.5 kHz	
5.4.2.4	The CI must be able to adapt to the frame rate of the host simulation computer	
5.4.3.2	The CI must have a means of readily and efficiently replacing the storage media	
5.4.3.7	The CI must have shared memory connectivity for real-time external control and monitoring of each DOF state (position, rate, and acceleration)	
5.4.3.8	The CI must have Ethernet connectivity for non-real-time control and monitoring of each DOF state (position, rate, and acceleration), communications, transfer of logged data files, and backup of all parameters and configuration files	
5.4.3.11	*The CI must have built-in capability to properly and completely configure, compensate and tune the system without requiring external equipment or software	
5.4.3.14	*The CI must have at least the following operation modes: <ul style="list-style-type: none"> • Manual mode • Analog mode • Digital mode • Simulation mode 	
*Refer to the parent section of Annex A for the full text of the mandatory technical requirement		

Attachment 1 to Part 5

FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY – CERTIFICATION

I, the Bidder, by submitting the present information to the Contracting Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare a bid non-responsive, or will declare a contractor in default, if a certification is found to be untrue, whether during the bid evaluation period or during the contract period. Canada will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply with any request or requirement imposed by Canada may render the bid non-responsive or constitute a default under the Contract.

For further information on the Federal Contractors Program for Employment Equity visit [Employment and Social Development Canada \(ESDC\) – Labour's](#) website.

Date: _____ (YYYY/MM/DD) (If left blank, the date will be deemed to be the bid solicitation closing date.)

Complete both A and B.

A. Check only one of the following:

- A1. The Bidder certifies having no work force in Canada.
- A2. The Bidder certifies being a public sector employer.
- A3. The Bidder certifies being a [federally regulated employer](#) being subject to the [Employment Equity Act](#).
- A4. The Bidder certifies having a combined work force in Canada of less than 100 permanent full-time and/or permanent part-time employees.

A5. The Bidder has a combined workforce in Canada of 100 or more employees; and

- A5.1. The Bidder certifies already having a valid and current [Agreement to Implement Employment Equity](#) (AIEE) in place with ESDC-Labour.
- OR**
- A5.2. The Bidder certifies having submitted the [Agreement to Implement Employment Equity \(LAB1168\)](#) to ESDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to ESDC-Labour.

B. Check only one of the following:

- B1. The Bidder is not a Joint Venture.
- OR**
- B2. The Bidder is a Joint venture and each member of the Joint Venture must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions)