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**REQUEST FOR STANDING
OFFER /
DEMANDE D'OFFRE À
COMMANDE**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

THIS DOCUMENT CONTAINS A
SECURITY REQUIREMENT /
DOCUMENT CONTIENT DES
EXIGENCES RELATIVES À LA
SÉCURITÉ

**Vendor/Firm Name and Address
Raison sociale et adresse du
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Issuing Office - Bureau de distribution
Science Procurement Directorate/Direction de
l'acquisition de travaux scientifiques
11C1, Phase III
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Gatineau, Québec K1A 0S5

Title-Sujet R&D requirements for electro-optical and infrared technologies. / Besoins en recherche et développement pour les technologies électro-optiques et infrarouges.	
Solicitation No. - N° de l'invitation W7701-145859/E	Date 2017-10-31
Client Reference No. - N° de référence du client W7701-145859	
GETS Reference No. - N° de référence de SEAG PW-17-00792415	
File No. - N° de dossier W7701-145859	Amendment No. - Modification - 002
Solicitation Closes - L'invitation prend fin at - à 14:00 on - le 2017-11-07	Time Zone Fuseau horaire Eastern Standard Time (EST) - Heure normale de l'est (HNE)
F.O.B. - F.A.B Plant-Usine : <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: IAN POTVIN ian.potvin@tpsgc-pwgsc.gc.ca	Buyer Id - Id de l'acheteur 007sl
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Destination of Goods, Services and Construction: Destinations des biens, services et construction : Specified Herein Précisé aux présentes	

Instructions : See Herein

Instructions : voir aux présentes

Delivery Required - Livraison exigée See Herein - voir aux présentes	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de telephone 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



Cette modification 002 vise à :

- 1- Ajuster la description des tâches pour la catégorie de ressource "Chercheur EO en chimie" (section 4.4.25 de l'Étendue des besoins).

This Amendment 002 is raised to:

- 1- Adjust the work description for the "EO RESEARCHER - CHEMISTRY" (Section 4.4.25 of the Statement of Requirements).

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PART 1 - GENERAL INFORMATION

1.1 Introduction

The Request for Standing Offers (RFSO) is divided into seven parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Offeror Instructions: provides the instructions applicable to the clauses and conditions of the RFSO;
- Part 3 Offer Preparation Instructions: provides Offerors with instructions on how to prepare their offer to address the evaluation criteria specified;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria which must be addressed in the offer, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 Security, Financial and Insurance Requirements: includes specific requirements that must be addressed by Offerors; and
- Part 7 7A, Standing Offer (SO), and 7B, Resulting Contract Clauses:
 - 7A, includes the Standing Offer containing the offer from the Offeror and the applicable clauses and conditions;
 - 7B, includes the clauses and conditions which will apply to any contract resulting from a call-up made pursuant to the Standing Offer.

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

1.2 Summary

Defence Research and Development Canada (DRDC) is mandated to support the Canadian Armed Forces in their electro-optical system acquisition process by translating their operational needs into technical data, evaluating sensor performance or evaluating the potential of emerging technologies. DRDC also intends to study electro-optical (EO) systems for the protection of military platforms (air, ground and sea) and their occupants. These electro-optical technologies require proximity electronics to be integrated into them in order to evaluate them or extend their range, and in order to integrate EO systems into these platforms.

The goal of this Request for Standing Offers is to issue standing offers to obtain qualified professional and scientific resources in the electro-optical and infrared (EO-IR) field, where necessary, to support DRDC research and development (R&D) activities. These services could cover the design, development or manufacture of specific elements, including characterization or software development. DRDC provides its services to the Canadian Armed Forces for operational needs, for which response time is critical. The ability to meet the needs of DRDC teams quickly and on time, through the addition of professional and scientific resources, is key to delivering DRDC's mandates. Specifically, all the services required will be in relation to, but not limited to, the following core areas:

1. Characterization of EO systems
2. Opto-mechanics
3. Electronics sector
4. Architecture, Programming, Computer Engineering and Systems Engineering
5. EO systems operation
6. Hyperspectral systems
7. EO systems integration support
8. Airborne platforms
9. Laser and LIDAR
10. Processing, analysis, integration and fusion of images and signatures
11. Aircraft signatures

Standing offers pursuant to this requirement will be made available to all DRDC Research Centres working with EO-IR technologies, divided by region. The regions and Centres are identified in the Excel file, made available to Offerors submitting a financial bid, which is available on the Notice of this RFSO. For your information, the vast majority of required professional and scientific services in R&D will be concentrated at the Valcartier Research Centre, in the Québec City area.

1.2.1 Period of the Standing Offer

The SO will be valid for a period of up to 10 years, consisting of one firm period of four years and up to three optional periods of two years each.

1.2.2 Trade Agreements and Canadian Content Policy

- i. The requirement is subject to the provisions of the Canadian Free Trade Agreement (CFTA), formerly known as the Agreement on Internal Trade (AIT).
- ii. This requirement is excluded from the application of the North America Free Trade Agreement (NAFTA) in accordance with Annex 1001.1b-2, Section B, Part A – Research and Development, All Classes, and the services are excluded from Annex 4, Services, to Appendix 1 to the World Trade Organization Agreement on Government Procurement (WTO-AGP).
- iii. The requirements under this RFSO are limited to Canadian goods or services, as defined in the policy articles and partially reproduced herein (Canadian Content Policy, Section 3(b) and (c)):
 - b) *A good wholly manufactured or originating in Canada is considered a Canadian good. A product containing imported components may also be considered Canadian for the purpose of this policy when it has undergone sufficient change in Canada, in a manner that satisfies the definition specified under the North American Free Trade Agreement (NAFTA) Rules of Origin. For the purposes of this determination, the reference to "territory" in the NAFTA Rules of Origin is to be replaced with "Canada".*
 - c) *A service provided by an individual based in Canada is considered a Canadian service. Where a requirement consists of only one service, which is being provided by more than one individual, the service will be considered Canadian if a minimum of 80 percent of the total bid price for the service is provided by individuals based in Canada.*
- iv. A portion of this requirement may be subject to the Controlled Goods Program

- v. For services requirements, Offerors who are receiving a pension or who have received a lump sum payment must provide the information requested, as outlined in section 2.3 of PART 2 – OFFEROR INSTRUCTIONS.

1.2.3 Identified Users of the Standing Offer

This SO is available to DRDC Research Centres.

1.2.4 Comprehensive Land Claims Agreement

Contracts arising from this RFSO cannot be used for deliveries or service delivery within a region covered by a Comprehensive Land Claims Agreement. Any delivery or provision of services to be performed in such region must be submitted to the Department of Public Works and Government Services Canada for separate processing.

1.3 Security Requirements

There are security requirements associated with the requirement of the Standing Offer. For additional information, see Part 6 - Security, Financial and Insurance Requirements, and Part 7 - Standing Offer and Resulting Contract Clauses. For more information on personnel and organization security screening or security clauses, Offerors should refer to the Industrial Security Program (ISP) of Public Works and Government Services Canada (<http://ssi-iss.tpsgc-pwgsc.gc.ca/index-eng.html>) website.

1.4 Debriefings

Offerors may request a debriefing on the results of the request for standing offers process. Offerors should make the request to the Standing Offer Authority within 15 working days of receipt of the results of the request for standing offers process. The debriefing may be in writing, by telephone or in person.

PART 2 - OFFEROR INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

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

Offerors who submit an offer agree to be bound by the instructions, clauses and conditions of the RFSO and accept the clauses and conditions of the Standing Offer and resulting contract(s).

The 2006 (2016-04-04) Standard Instructions - Request for Standing Offers - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the RFSO.

Paragraph 5.4 of document 2006, Standard Instructions – Request for Standing Offers – Goods or Services – Competitive Requirements is modified as follows:

Remove: 60 days

Insert: 120 days.

In the event that the required security clearance has not been submitted with its offer because the Offeror must submit a security clearance application form to PWGSC's security division, the Offeror willingly agrees, if wishes, to keep its offer valid until receipt of the said certificate, and the issuance of its Standing Offer. During this period, the Offeror may exercise its right to withdraw the offer for reasons of its own.

2.2 Submission of Offers

Offer(s) must be submitted only to the Public Works and Government Services Canada (PWGSC) Bid Receipt Unit by the date, time and address indicated on page 1 of the RFSO.

Owing to the nature of the solicitation, offers sent to PWGSC by fax or email will not be accepted.

2.3 Former Public Servant

For certifications regarding the use of former public servants, consult section 5.1.5 of PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION.

2.4 Enquiries - Request for Standing Offers

All enquiries must be submitted in writing to the Standing Offer Authority no later than ten (10) calendar days before the Request for Standing Offers (RFSO) closing date. Enquiries received after that time may not be answered.

Offerors should reference as accurately as possible the numbered item of the RFSO to which the enquiry relates. Care should be taken by Offerors 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 Offerors do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all Offerors. Enquiries not submitted in a form that can be distributed to all Offerors may not be answered by Canada.

2.5 *Applicable Laws*

The Standing Offer and any contract resulting from the Standing Offer must be interpreted and governed, and the relations between the parties determined, by the laws in force in the province of Quebec.

Offerors may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their offer, 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 Offerors.

2.6 *Improvements made as needed during the solicitation period*

Offerors who believe that they can improve, technically or technologically, the specifications or Statement of Requirements contained in this Standing Offer are asked to provide their suggestions in writing to the Standing Offer Authority identified in Part 7A, Section 7.5, below. Offerors must clearly state the suggested improvements and supporting reasons. Suggestions that do not restrict the level of competition or favour a particular Offeror will be reviewed, provided that the Standing Offer Authority receives them no later than 15 days after the solicitation closing date. Canada will have the right to accept or refuse any or all of the proposed suggestions.

2.7 *Participation in the solicitation*

Although Offerors may receive, in connection with this solicitation, up to two (2) Standing Offers, their offers must meet all the requirements of this solicitation. Each bid can include an offer for all or part of the resource categories, in accordance with the mandatory criteria in Attachment 1 of Part 4, Technical Evaluation of the Standing Offer.

A corporation/legal person may submit:

- (i) a single offer in its name; and/or
- (ii) a single offer as a joint venture.

The same corporation/legal person cannot submit more than two offers in response to this solicitation. If a corporation/legal person participates in more than two offers, Canada will choose which two offers to receive at its discretion.

If a corporation/legal person decides to participate in two offers, it must submit two separate documents, clearly identified as distinct offers. Each offer will be evaluated independently, without taking into account the other offers submitted; accordingly, each offer submitted must be complete.

2.7.1 *Joint Venture*

- I. A joint venture is an association of at least two parties who combine money, property, knowledge, expertise or other resources in a single joint business enterprise, sometimes referred to as a consortium, to bid together on a requirement. Offerors who bid as a joint venture must clearly indicate that they are a joint venture and provide the following information:
 - (a) the name of each member of the joint venture;
 - (b) the Procurement Business Number of each member of the joint venture;

- (c) the name of the joint venture's representative, meaning the member chosen by the other members to represent them; and
 - (d) the name of the joint venture.
- II. If the information in the bid is not clear, the Offeror will have to provide information upon the request of the Standing Offer Authority.
- III. The Standing Offer(s) and all call-up responses must be signed by all members of the joint venture unless one member has been appointed to represent all members of the joint venture. The Standing Offer Authority may, at any time, ask each member of the joint venture to confirm that the representative has received full authority to act as a representative for the purposes of the RFSO and/or any call-ups. If a Standing Offer is issued to a joint venture, all members will be jointly and severally liable or solidarily liable for the performance of any contract resulting from a call-up against the Standing Offer. If there is a change in the membership of the joint venture, Canada may set aside the Standing Offer.

PART 3 - OFFER PREPARATION INSTRUCTIONS

3.1 Offer Preparation Instructions

Canada requests that Offerors provide their offer in separately bound sections as follows:

Section I: Technical Offer - 1 hard copy and 1 soft copy on a USB stick.

Section II: Financial Offer - 1 hard copy and 1 soft copy on a USB stick.

Section III: Certifications - 1 soft copy on a USB stick.

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

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

Canada requests that Offerors follow the format instructions described below in the preparation of their offer.

- (a) Use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) Use a numbering system that corresponds to that of the Request for Standing Offers.

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

The Offerors are required to identify in their offer(s) the categories and levels of resources for which they would like to submit an offer. This solicitation is intended to award a Standing Offer according to an evaluation that not includes the personnel likely to be used in call-ups. Given that the solicitation does not require the submission of specific individual resources, the Offeror is not required, for the time being, to submit résumés with its offer. The resources will be evaluated during the second stage of the procurement process, as stated in section 4.1.1 of PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION.

Section II: Financial Offer

There will be no financial evaluation at this stage of the procurement process. That said, Offerors must submit their financial offer in accordance with Attachment 1, Financial Offer Presentation, to PART 3, FINANCIAL PRESENTATION SHEET. The total amount of applicable taxes must be indicated separately, where applicable.

Section III: Certifications

Offerors must submit the certifications required in Part 5, and the certification for “Former Public Servant” from Section 2.3 of PART 2 - OFFEROR INSTRUCTIONS.

Attachment 1 to Part 3, Financial Presentation Sheet

Offerors must submit their financial bid as follows, using the Excel spreadsheet provided in electronic format:

- (a) A firm all-inclusive hourly rate for each category and level of resources for which they want to submit an offer, for the given regions(s), for each year of the Standing Offer and for each option period, where applicable.

The rates submitted in the offer for a given category and level of resource must not increase by more than 5% from one period to the next. If the increase is more than 5%, the bid will be considered non-responsive.

Offerors are not required to provide rates for all the regions indicated. They must select the regions(s) for which they want to submit a rate offer. Only the Offerors who have submitted a rate offer for a given region will be asked to provide a resource or resources for that/these regions.

The total amount of applicable taxes must be indicated separately, where applicable.

- (b) Prices must be in Canadian dollars, excluding applicable taxes, including customs duties and Canadian excise taxes, where applicable.

Travel and living expenses

No travel and living expenses will be paid for travel between the Supplier's business location(s), the resource's residence or other places and the DRDC Research Centres (main workplaces). All costs are to be included in the firm all-inclusive hourly rate, where applicable.

When necessary and at the request of the DRDC, all other travel and living expenses related to duties or work outside of the main workplaces will be reimbursed at the actual cost.

If the Offerors wish, the firm all-inclusive hourly rates can be adjusted upwards or downwards during the annual refresh of the Standing Offer. Note that these rates will not be disclosed by Canada.

Offerors are asked to fill out the Excel spreadsheet available on the buyandsell.gc.ca website, in the Attachment section of the Notice of this Standing Offer. In the event that the Excel spreadsheet does not work, please contact the Standing Offer Authority to get an electronic copy. Offerors must return a paper copy and an electronic copy of this Excel file with their offer.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation methodology and procurement process phases

All elements of the procurement process that are mandatory requirements are specifically indicated by the terms “must” or “mandatory”. The procurement process for DRDC’s EO-IR requirements under this Standing Offer will take place in two (2) separate phases.

Phase 1: Establishment of Standing Offers – Request for Standing Offer (RFSO)

The first phase of the procurement process will be to pre-qualify the Offerors who have submitted an offer. A technical evaluation will be carried out to ensure that each offer contains a proposal that meets the mandatory requirements of the RFSO, including security requirements. Offerors are not required to provide information on resources at this stage of the process. Resources will not be evaluated before the Standing Offers are awarded.

Offerors who have submitted an offer that meets the requirements of the RFSO will be recommended for issuance of a Standing Offer and will be added to the list of suppliers qualified to supply professional/scientific services for EO-IR technology requirements.

Phase 2: Future requirements – Call-up (after SOs are issued)

The second phase of the procurement process will be to fill one or more of DRDC’s professional/scientific service requirements, as and when required. This phase will consist of determining the supplier(s) who will receive one or several call-ups by conducting mini-competitions. The selection methods that will be used during this phase and all details concerning the evaluations are outlined in Section 7.8 of PART 7A - STANDING OFFER AND RESULTING CONTRACT CLAUSES.

During this phase, the resources proposed by the Supplier(s) will be evaluated according to the mandatory evaluation criteria listed in Annex A – Statement of Requirements and according to the point rated evaluation criteria, examples of which are provided in Annex A – Statement of Requirements. Canada will ask the Suppliers who have been selected to submit a response to the Confirmation of Availability Form (CAF). A copy of the CAF form will be provided SO holders.

4.2 Evaluation Procedures - Request for Standing Offer (RFSO)

- (a) Offers will be evaluated according to all of the requirements of the RFSO, including the Phase 1 mandatory technical criteria and excluding the resource evaluation. The evaluation methodology is described below.
- (b) A team of representatives of Canada will evaluate the offers. Canada reserves the right to retain the services of an independent consultant or to use government resources to evaluate any offer. All members of the evaluation team will not necessarily participate in all aspects of the evaluation.
- (c) If Canada asks an Offeror for more information about its offer or wants to verify it, the Offeror will have three (3) business days, or a longer period specified in writing by the Standing Offer Authority, to supply the information needed by the representatives of Canada. If this deadline is not met, the offer will be declared, in whole or in part, non-compliant, unless the Standing Offer Authority decides, at his sole discretion, to grant an extension.

4.3 Basis of Selection – Request for Standing Offer (RFSO)

4.3.1 Selection methodology for awarding a Standing Offer

A Standing Offer will be awarded to all Offerors who have submitted an offer declared responsive. To be declared responsive, an offer must meet all the requirements of the RFSO, satisfy all the mandatory technical criteria listed in Attachment 1 to Part 4, Technical Evaluation of Standing Offers, include the rate(s) for at least one resource and meet the security requirements listed in Section 4.3.2, Security Requirements, below.

For information purposes, there is no limit to the total number of Standing Offers that can be awarded under this requirement. Also, the Offerors will not be ranked according to the prices submitted. Details concerning the issuance of call-ups and the selection methodology for qualified suppliers are included in Section 7.8 of PART 7 – STANDING OFFER AND RESULTING CONTRACT CLAUSES.

4.3.2 Security Requirements

Prior to the award of a Standing Offer, the Offeror must comply with all security requirements set out in PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS, and PART 7A - STANDING OFFER AND RESULTING CONTRACT CLAUSES.

If an Offeror does not have the required security clearances at the evaluation stage of its offer, but meets all of the other RFSO requirements, the Standing Offer Authority may, at his sole discretion, grant the Offeror additional time to obtain the necessary security clearances. These offers will be set aside for the time that it takes the Offeror to prove that it has received the necessary security clearances. The issuance of SOs that have not received the necessary security clearance will be the only ones to be deferred.

Attachment 1 to Part 4, Technical Evaluation of the Standing Offer

By submitting an offer, Offerors indicate that, in their opinion, they entirely meet all of the mandatory requirements of this attachment to the RFSO and that they agree to be bound by the clauses and conditions contained in Part 7A and 7B if they are awarded a Standing Offer or a contract.

Offerors must provide additional information to indicate where, when and how they acquired their experience and demonstrate how they will meet the mandatory requirements by providing the necessary evidence, without which their offer will be declared non-responsive based on the evaluation.

To demonstrate when the experience was gained, the Offeror must indicate the duration of each project or experience, providing the start and end dates in a month/year numerical format. The experience acquired as part of projects or work carried out simultaneously will be counted only one time.

Canada may verify the authenticity of the information provided by the Offerors during the evaluation period, before issuing a Standing Offer or at any time during the life of the Standing Offer. The Standing Offer Authority will have the right to ask for additional information to ensure that the Offerors comply with the certifications before issuing a Standing Offer or at a later date. The offer will be declared non-responsive if it is determined that any certification made by the Offeror is untrue, whether made knowingly or unknowingly. Failure to follow up on a request for additional information made by the Standing Offer Authority will result in the exclusion of the offer.

Mandatory Criteria		Corresponding Page in the Proposal
Financial Certification Mandatory Criterion		
M1	<p>The Offeror must have generated at least \$50,000 CAN in revenue over the last twelve (12) months preceding the offer submission date, or during its last fiscal year.</p> <ol style="list-style-type: none"> 1. To demonstrate that it meets this requirement, the Offeror must provide a financial certification signed by its chief financial officer, chief executive officer or duly authorized representative. 2. The Offeror acknowledges that PWGSC reserves the right to verify that this financial certification was true as of the offer submission date by requesting additional financial information from the Offeror or by other means, at any time prior to the Standing Offer's award or during its performance. 3. If the Offeror is a joint venture, the financial certification must be provided by at least one member of the joint venture. 	
Mandatory criterion - Minimum number of years of business operations		
M2	<p>The Offeror must have carried out its activities for at least twelve (12) months as of the offer submission date.</p> <ol style="list-style-type: none"> 1. To demonstrate this requirement, the Offeror must provide documented proof of its status, such as a certificate of incorporation, a business registration or tax returns, confirming the number of years it has been in business. 2. If the Offeror is a joint venture, at least one member of the joint venture must meet this requirement. 	

	<p>3. If the Offeror has been incorporated or otherwise created in the twelve (12) months preceding the offer submission date as the result of a corporate change under which it has in law assumed all of the assets, undertakings, operational capability, skills and resources of other legal entities, and if this brings the total number of months of activity to at least 12, Canada will consider this requirement to be met.</p>	
Mandatory criteria - Expertise in EO-IR fields		
M3	<p>During the sixty (60) months preceding the offer submission date, the Offeror must have acquired corporate expertise related to at least one (1) of the EO-IR technology fields, identified in Section 2 of Annex A, Statement of Requirements.</p> <p>The corporate expertise may include the supply of professional or scientific resources to third parties, the realization of projects concerning EO-IR or similar technology, or the total of expertise or previous experiences of all or some of the Offeror's current employees.</p>	
M4	<p>For each resource category for which an offer is submitted, the Offeror must have provided professional or scientific* services that closely correspond to the description of services in the said category listed in Annex A, Statement of Requirements. The professional and scientific services must have been provided to an external client or to Canada in the ten (10) years preceding the offer submission date.</p> <ul style="list-style-type: none"> ➤ To demonstrate that it meets this requirement, the Offeror must provide, for each resource category presented in the offer, a reference from a person or an external client, who has not worked for the offeror in the past six (6) months and able to confirm that the professional and scientific services were indeed provided, as outlined in the offer. ➤ The Offeror must also provide a description of the type of service provided for each proposed category, the date the service was provided, the duration of the service, the name of the third party and the relationship between the service(s) provided and EO-IR technology. ➤ If the Offeror is a joint venture, at least one of its members must have previously provided services for the proposed resource categories in its offer. <p>Note that services previously provided can have been carried out/delivered at the Offeror's facilities or at a third party location.</p> <p>*Services that in some way can:</p> <ul style="list-style-type: none"> - be interrelated; or - be complementary; or - have a common goal; or - support the supply of services outlined in Annex A, Statement of Requirements, under other resource categories. 	
Financial Mandatory Criterion – Rates related		
FMC1	<p>The all-inclusive hourly rates included in the offer for a resource category or for a resource must not increase by more than 5% from one period to another.</p>	

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Offerors must provide the required certifications and additional information to be issued a standing offer.

The certifications provided by Offerors to Canada are subject to verification by Canada at all times. Canada will declare an offer non-responsive, will have the right to set-aside a standing offer, or will declare a contractor in default if any certification made by the Offeror is found to be untrue whether made knowingly or unknowingly during the offer evaluation period, during the Standing Offer period, or during the contract period.

The Standing Offer Authority will have the right to ask for additional information to verify the Offeror's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Standing Offer Authority will render the offer non-responsive, result in the setting aside of the Standing Offer or constitute a default under the Contract.

5.1 Certifications Precedent to the Issuance of a Standing Offer and Additional Information

The certifications and additional information listed below should be submitted with the offer, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Standing Offer Authority will inform the Offeror 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 offer non-responsive.

5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with 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 Offeror must provide with its offer the required documentation, as applicable, to be given further consideration in the procurement process.

5.1.2 Canadian Content Certifications

These requirements are conditionally limited to Canadian goods and/or services.

Subject to the evaluation procedures in the RFSO, Offerors acknowledge that only offers accompanied by a certification confirming that the goods or services provided are Canadian, as defined in clause A3050T, can be considered.

Failure to provide this completed certification with the offer will result in the goods or services being treated as non-Canadian.

The Offeror certifies that:

() The goods or services offered are Canadian goods or services, as defined in paragraphs 1 and 2 of clause A3050T.

5.1.3 Integrity Provisions

Unless otherwise specified in section 17 of the Standard Instructions, "Information to be Provided when Bidding, Contracting or Entering into a Real Property Agreement" of the Ineligibility and Suspension Policy, all Offerors, regardless of their situation under this policy, must submit the information below when submitting an offer:

1. Offerors who are corporate entities, including those submitting an offer as joint ventures, must provide a complete list of the names of all current directors or, for a privately owned corporation, the names of the owners of the corporation;
2. Offerors bidding as sole proprietors, including those bidding as joint ventures, must provide a complete list of the names of all owners; and
3. Offerors bidding as a partnership do not have to submit a list of names.

If the list of names is not provided at the end of the offer evaluation, the Standing Offer Authority will inform the Supplier of the deadline for providing the information.

Providing the names listed above is a mandatory requirement for award of a contract or Standing Offer. Failure to provide the list of names by the specified deadline will render the offer non-responsive or the Offeror otherwise disqualified from the Standing Offer award process.

5.1.4 Federal Contractors Program for Employment Equity – Standing Offer Certification

By submitting an offer, the Offeror certifies that no member of its organization, including any member of a joint venture if the Offeror is one, is on the Federal Contractors Program (FCP) for Employment Equity "FCP Limited Eligibility to Bid" list available on the Employment and Social Development Canada (ESDC) – Labour website.

Canada will have the right to declare an offer non-responsive or to set aside the Standing Offer if one of the Offeror's members is on the "FCP Limited Eligibility to Bid" list at the time of issuing the Standing Offer or during the Standing Offer period.

5.1.5 Former Public Servant

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPSs, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

Definitions

For the purposes of this clause, "former public servant" is any former member of a department as defined in the Financial Administration Act, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a) an individual;
- b) an individual who has incorporated;
- c) a partnership made of former public servants; or
- d) a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the Public Service Superannuation Act (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the Supplementary Retirement Benefits Act, R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the Canadian Forces Superannuation Act, R.S., 1985, c. C-17, the Defence Services Pension Continuation Act, 1970, c. D-3, the Royal Canadian Mounted Police Pension Continuation Act, 1970, c. R-10, and the Royal Canadian Mounted Police Superannuation Act, R.S., 1985, c. R-11, the Members of Parliament Retiring Allowances Act, R.S. 1985, c. M-5, and that portion of pension payable to the Canada Pension Plan Act, R.S., 1985, c. C-8.

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension? **Yes () No ()**

If so, the Bidder must provide the following information, for all FPSs in receipt of a pension, as applicable:

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2012-2 and the Guidelines on the Proactive Disclosure of Contracts.

Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **Yes () No ()**

If so, the Bidder must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks;
- g. number and amount, professional fees, of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS

6.1 Security Requirements

- 6.1.1 Before issuance of a standing offer, the terms identified at Article 7.2.1 of Part 7A, STANDING OFFER AND RESULTING CONTRACT CLAUSES must be met by the bidder.
- 6.1.2 The Offeror acknowledges that it will have to comply with at minimum the same security requirements listed above for the supply of future resources.
- 6.1.3 Offerors are reminded to obtain the required security clearance promptly. Any delay in the issuance of a standing offer to allow the successful Offeror to obtain the required clearance will be at the entire discretion of the Standing Offer Authority.
- 6.1.4 **Important note for offerors:** Offerors may ask the Standing Offer Authority to sponsor their candidacy to increase their security clearance to the level above their current level or make an initial designated organization screening (DOS) reliability clearance request. Such a sponsorship is only available to raise the security clearance by one level at a time. This request can be made by email to the attention of the Standing Offer Authority at any time before the bid solicitation closing date.

Canada suggests that Offerors begin the security verification process now to increase their certification to the TOP SECRET level. This includes the verification and certification for resources that are currently known by the Offeror. For unidentified resources, the Offerors will be able to submit a request for verification and certification once the resource is identified, before or after the submission of the Standing Offer.

- 6.1.5 For additional information on security requirements, Offerors should refer to the Industrial Security Program (ISP) of Public Works and Government Services Canada (<http://ssi-iss.tpsgc-pwgsc.gc.ca/index-eng.html>) website.

6.2 Financial Capability

SACC Manual clause M9033T (2011-05-16) Financial Capability

6.3 Controlled Goods Program Requirements

SACC Manual clause [A9130T](#) (2014-11-27), Controlled Goods Program

PART 7 - STANDING OFFER AND RESULTING CONTRACT CLAUSES

In this document, the terms “Contractor” and “Supplier” have the same meaning.

In this document, the terms “Statement of Work” and “Statement of Requirements” have the same meaning.

A. STANDING OFFER

7.1 Offer

7.1.1 The Offeror offers to fulfill the requirement in accordance with the Statement of Requirements at Annex A and identified in the CAF.

7.2 Security Requirements and Visit Clearance Request (VCR)

The services required contain requirements related to security. The Supplier must at least possess a DOS delivered by the Canadian Industrial Security Directorate (CISD) when the Standing Offer is awarded.

7.2.1 Security Requirements

1. The Contractor/Offeror must, at all times during the performance of the Contract/Standing Offer, hold a valid **Designated Organization Screening (DOS)**, issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).
2. The Contractor/Offeror personnel requiring access to PROTECTED information, assets or sensitive work site(s) must EACH hold a valid **RELIABILITY STATUS**, granted or approved by CISD/PWGSC.
3. This contract includes access to **Controlled Goods**. Prior to access, the contractor must be registered in the Controlled Goods Program of Public Works and Government Services Canada (PWGSC).
4. The Contractor/Offeror MUST NOT remove any PROTECTED information or assets from the identified work site(s), and the Contractor/Offeror must ensure that its personnel are made aware of and comply with this restriction.
5. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.
6. The Contractor/Offeror must comply with the provisions of the:
 - a) Security Requirements Check List and security guide (if applicable), attached at Annex _____;
 - b) Industrial Security Manual (Latest Edition).

The services to be provided under this Standing Offer will be subject to additional security requirements that have not been determined yet. These additional security requirements will be indicated on another SRCL that will be incorporated into the CAF and the call-up.

7.2.2 Employee Visit Clearance Request

Immediately after the awarding of the call-up, the Supplier will be required to obtain, as soon as possible, visit clearances from ISS for each employee listed on the call-up.

The Supplier must submit an ISS Visit Clearance Request by filling out the form in Annex E.

At least 25 business days are required to obtain a visit clearance from ISS.

Without visit clearances, the Supplier's employees will not have access to DND/DRDC facilities, making them accountable for any delays caused, excluding those caused by Canada.

Suppliers can visit the ISS website section on visit clearances at: <http://iss-ssi.pwgsc-tpsgc.gc.ca/msi-ism/index-eng.html>, Chapter 6.

7.3 Standard Clauses and Conditions

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

7.3.1 General Conditions

2005 (2016-04-04), General Conditions - Standing Offers - Goods or Services, apply to and form part of the Standing Offer.

7.4 Term of Standing Offer

7.4.1 Period of the Standing Offer

The period for making call-ups against the Standing Offer is from the date of Standing Offer issuance to March 31, 2022.

7.4.2 Extension of Standing Offer

If the Standing Offer is authorized for use beyond the initial period, the Supplier agrees to extend its offer for a maximum of three (3) additional periods of two (2) years each, under the same conditions and at the same rates specified in the initial Standing Offer or in the annual update/refresh of its offer.

The Supplier will be advised of the decision to authorize the use of the Standing Offer for an extended period by the Standing Offer Authority approximately 30 days before its expiration date. A change to the Standing Offer will be issued by the Standing Offer Authority to officially advise the Supplier.

7.5 Authorities

7.5.1 Standing Offer Authority

The Standing Offer Authority is:

Ian Potvin

Public Works and Government Services Canada
Acquisition Branch
11 Laurier Street, 11C1-69
Gatineau, QC
K1A 0S5

Telephone: 873- 469- 4831
Email: ian.potvin@tpsgc-pwgsc.gc.ca

The Standing Offer Authority is responsible for the establishment of the Standing Offer, its administration and its revision, if applicable. Upon the making of a call-up, as Contracting Authority, he is responsible for any contractual issues relating to individual call-ups made against the Standing Offer by any Identified User.

7.5.2 Identified User Authority

The Senior Identified User Authority for the Standing Offer is:

[The Identified User Authority contact information will be added upon issuance of the SO.](#)

The Senior Identified User Authority represents the department or agency for which the work or services are carried out pursuant to a call-up against a Standing Offer. This person is responsible for all issues related to the awarding of call-ups, the evaluation of submissions, security requirements or problems encountered by the Supplier(s).

7.5.2.1 Technical Authority (will be identified in the CAF)

The Technical Authority represents the department or agency for which the work or services are carried out pursuant to the Contract. This person is responsible for all issues related to the technical content of the work outlined in the Contract. Technical issues can be discussed with the Technical Authority; however he or she cannot authorize changes to the statement of work. Such changes can be carried out only through a formal contract amendment issued by the DND Procurement Authority or the Standing Offer Authorities, whichever occurs first.

7.5.2.2 DND Procurement Officer (will be identified in the CAF)

The Procurement Officer represents the department or agency for which the work is carried out pursuant to the Contract. This person is responsible for the implementation of tools and procedures required for the administration of the Contract. The Contractor can discuss administrative issues identified in the Contract with the Procurement Officer. The statement of work can be changed by the DND Procurement Officer. However, the DND Procurement Officer cannot make changes to the Statement of Requirements, since these must be incorporated into the SO through a formal contract amendment issued by the Standing Offer Authority or by one of his or her representatives.

7.5.3 Supplier Representative

The Supplier Representative is the main contact person for all issues related to the Standing Offer. The Supplier confirms that this person has the authority to act on behalf of the Supplier. It is the Supplier's responsibility to ensure that the information related to its representative is accurate and to inform the Standing Offer Authority of any changes made to it. In the event of the temporary or permanent replacement of the Supplier's main representative, the representative must inform the Standing Offer Authority so that the changes can be made as soon as possible:

[The Supplier Representative's contact information will be added upon issuance of the SO.](#)

7.6 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a PSSA pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with Contracting Policy Notice: 2012-2 of the Treasury Board Secretariat of Canada.

7.7 Identified User

The Identified User authorized to make call-ups against the Standing Offer is DRDC.

7.8 Call-up Procedures

Call-ups cannot be used for deliveries within a Comprehensive Land Claims Agreement area. All deliveries for such area must be submitted to Public Works and Government Services Canada to be processed separately.

7.8.1 Multiple Standing Offer

If several SOs have been issued for services listed in Annex A, the call-ups will be distributed among the Suppliers according to the process outlined below, while staying within the planned budget envelope. Once accepted by Canada, each call-up (CU) results in a separate contract between Canada and the Supplier.

7.8.2 Confirmation of Availability Form (CAF)

Each CAF will specify the requirements of the call-up established by the Identified User by describing the specific project, including but not limited to the following:

- a. the call-up period, including any options;
- b. the precise categories, the level of skill and the number of resources required;
- c. the estimated amount of effort required;
- d. a proposed basis of payment, using a firm price or a ceiling price not to exceed a budget limitation, in accordance with the firm all-inclusive hourly rates listed in Annex B, Basis of Payment for the Standing Offer;
- e. the location where the required services will be delivered;
- f. the requirements in terms of travel and accommodation (if applicable);
- g. the security clearance required to provide the required services;
- h. the contact information of the Identified User;
- i. the supplier selection method;
- j. the evaluation criteria, which may include the specific areas of education, certification or experience required;
- k. the details of the Statement of Requirements for the CU, including deliverables; and
- l. the deadline for submissions and the response delivery address.

The terms and conditions outlined in the CAF and in the Standing Offer are an integral part of call-ups. Certain CAFs may require service delivery in one or both of Canada's official languages. Only Offerors who have submitted a rate offer for a given region will be asked to provide resources for that region.

7.8.3 Basis of Selection - Supplier

7.8.3.1 Non-competitive Call-up (less than \$25,000.00)

The Identified User may assign call-ups of less than \$25,000.00 (applicable tax included) to one or more suppliers of its choice who have received a Standing Offer for the relevant category or

categories, in accordance with the Government Contracts Regulations. The selected supplier must meet all the requirements listed in the CAF, which will be provided by the Identified User.

With the exception of certain operational requirements, or in the event that a supplier is the only one available to provide a resource, suppliers cannot receive two (2) non-competitive call-ups in a row. The Identified User will rotate suppliers to better distribute the work load.

7.8.3.2 Competitive Call-up

For competitive call-ups, the Identified User will issue a CAF to all suppliers who received a Standing Offer for the requested resource category or categories to obtain their “responses”. For call-ups where several resources are required, it is necessary to have submitted an offer for at least one (1) of these resources in order to receive a CAF.

7.8.3.2.1 Awarding Competitive Call-ups

With the exception of the highly sensitive requirements, a call-up (CU) is issued to the Supplier that meets the following criteria, in this precise order:

- I. all mandatory criteria in the CAF, including criteria;
- II. all security criteria indicated in the CAF or if not available at time of evaluation, those indicated in the SRCL before the issuance of a CU;
- III. receives the minimum scores listed in the CAF, where applicable; and
- IV. ranks first among the Suppliers, according to the ranking procedures identified in section 7.8.3.2.2, lowest price by point.

“Responses” that do not meet requirements (I) or (II) or (III) will be declared non-responsive. The responsive “response” that has received the most points or the one with the lowest price will not necessarily be recommended for award. The responsive “response” with the lowest price per point will be recommended for issuance of a CU, if one is issued. In the event that several CUs are issued for a specific requirement identified in a CAF, the Supplier or Suppliers receiving the CU(s), after the first one, are not required to meet section 7.8.3.2.1 IV.

7.8.3.2.2 Supplier Ranking for Award of Competitive Call-ups

After the process of evaluating the responses, a ranking from lowest to highest price per point will be created. The lowest price per point is obtained by dividing the total price of the “response” by the total points obtained on the rated technical criteria. The total price of the “response” will be calculated by multiplying the level(s) of effort required, for each resource category requested, by the Supplier’s hourly rate(s), listed in Annex B, Basis of Payment, to then be added in a total, if necessary (see example below).

Each ranking created by the Identified User will be made available to Suppliers upon requested. No formal feedback will be provided to ranked suppliers, regardless of their ranking. Only the non-responsive “responses” will get formal feedback from the Identified User. Any disagreement between a supplier and the Identified User related to the results under a CAF will have to be reviewed by the Standing Offer Authority.

If one or more resources requested in the CAF were not covered by the issuance of the first call-up, they can be covered by issuing one or more call-ups based on the ranking of supplier(s) who have the ability to provide the missing resources in order to cover the entire requirement. Canada also reserves the right to either reduce the scope of the requirement by removing the missing resource(s) from the CAF or issue a new and separate CAF for these resources.

If the best ranked supplier is unable to meet its obligations or requirements, the call-up may be awarded to the next supplier in the ranking, and so on. In the event of a tie between several

“responses” after their evaluation, the call-up may be awarded to the Supplier chosen by the Identified User.

When a supplier does not respond to a solicitation or when no suppliers are awarded a call-up according to the above procedure because no supplier meets the requirements, the Identified User can send a new CAF to the Supplier or group of suppliers of its choice.

Example: calculation of the total price of a response

The Identified User needs the following resources for one (1) day:

- *Physics specialist: 1 resource Level-3*
- *EO physics research technician: 2 resources Level-2*
- *Mechanics research technician: 3 resources Level-1*

Supplier's response:

- *Physics specialist: 1 resource Level-3 @ \$900 per day = \$900*
- *EO physics research technician: 1 resources Level-2 @ \$400 per day = \$400*
- *Mechanics research technician: 2 resources Level-1 @ \$500 per day = \$1,000*

Total price of the response: \$900 + \$400 + \$1,000 = \$2,300

7.8.4 Instructions for “response” submission and supplier certifications

To submit a response, the Supplier must fill out the entire CAF. The Supplier must identify the resource(s) that it is proposing for service delivery. The Supplier must submit résumés of the proposed resources. All skills of the proposed resources, such as their experience, expertise, education, certifications and how they meet the mandatory and point-rated criteria must be identified by the Supplier in the CAF, including its attachments. The suppliers may respond in either of Canada’s official languages, under the *Official Languages Act* and its regulations.

- I. **Content of the response:** The response must be signed by the Supplier or an authorized representative of the Supplier. It is the Supplier’s sole responsibility to submit its response within the required deadline and to send it properly. The response must include all of the necessary information to meet all the requirements stated in the CAF and clearly indicate the following:
 - a. the proposed resource(s) for the category(ies) and level of skill required, outlining the skills of the proposed resources (experience, education, certifications, if applicable); and
 - b. the information requested in order to respond to the necessary security level for the delivery of the services in question.
- II. **Response deadline:** Suppliers must submit their complete response to the person identified in the CAF within five (5) business days of its issue, or within a longer period if indicated in the CAF. Failure to submit a response by the required deadline will be interpreted as an inability or refusal to provide the services requested. No delivery delay will be accepted as justification.
- III. **Validity period:** The “responses” will be valid for a period of 25 business days beginning on the closing date indicated in the CAF. Canada reserves the right to request, in writing, an extension of this period from all suppliers who submit responsive “responses”, within at least three (3) days before the end of the “response” validity period. If all suppliers who submitted responsive “responses” agree to extend this period, Canada will continue to evaluate the “responses”. If this extension is not accepted by all suppliers who submitted

responsive “responses”, Canada will continue at its sole discretion to evaluate the “responses” from suppliers who have agreed to the extension or will cancel the CAF.

- IV. **“Response” submission:** “Responses” must be submitted to the mailing address or email address listed on the CAF before the closing date and time. Also, suppliers are responsible for ensuring that their names, sender’s address, CAF serial number and the closing date and time of the CAF are clearly indicated on the envelope or in the email containing the “response”. Suppliers are also responsible for ensuring that the envelope or email containing the “response” was received by the recipient identified in the CAF.
- V. **Communication:** To ensure the integrity of the competitive bid process under a CAF, all requests for information and other communication concerning the requirements of a CAF must be addressed only to the person whose name is indicated in the CAF. Failure to comply with this requirement could result in the “response” being declared non-responsive.

To ensure the consistency and quality of the information distributed to suppliers, important requests for information and answers will be shared with all suppliers who have received a CAF, to the email provided at issuance of the SO.

- VI. **Supplier’s Certification 1 of 2:** By submitting and signing a response to a CAF, the Supplier certifies and guarantees each of the following elements:
 - a. Each person proposed will be available to start work as of the date indicated in the CAF or the date agreed upon with the Identified User. If, for reasons out of its control, the Supplier is unable to provide the services of a specific individual, it may propose a replacement with equal or superior qualifications and experience at the same rate indicated in Annex B. For the purposes of this clause, only the following reasons will be considered as being out of the Supplier’s control: death, illness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.
 - b. When a subcontractor is used: If the Supplier proposes a person who is not an employee of the Supplier to carry out the work, it certifies that it has written permission from this person, or his or her employer, to propose the services in relation to the required work to be performed. During the evaluation of the proposed person, the Supplier must, upon the request of the Identified User, provide a copy of this permission for one or all of the people proposed who are not its employee(s). If the Supplier does not respond to this request, its response will be declared non-responsive.
 - c. The Supplier meets the insurance requirements outlined in this Standing Offer (if applicable).
- VII. **Supplier’s Certification 2 of 2:** By submitting and signing a response to a CAF, the Supplier acknowledges each of the following elements:
 - a. The Identified User has the right, but not the obligation, to take the following measures:
 - i. ask for clarification or to verify all the information provided by the Supplier in the CAF, either independently or by contacting the Supplier. In the latter case, the Supplier will have to respond to a request for a clarification by Canada’s representative within two (2) business days or within a longer period that may have been specified in writing; and

- ii. contact one or all of the people whose names are given as references, at the Supplier's sole expense, to verify all information and all data provided by the Supplier. The person listed as a reference will have at least two business days, or a longer period if specified in writing, to provide the Identified User with the required information. When the information provided by a reference differs from that provided by the Supplier, the information provided by the reference will be considered to be accurate. References will only be used to confirm the information provided by the Supplier and not to acquire new information.

Regarding points (i) and (ii) above, if the Supplier does not provide the requested information by the deadline, the Standing Offer Authority or the Identified User Authority may either grant additional time for the response, or consider the response as non-responsive and proceed with the issuing of a new CAF to one or more suppliers, or issue the call-up to the next supplier in the ranking established according to section 7.8.3.2.2.

- b. In the event of an urgent or sensitive requirement, Canada will not delay the award of a call-up in order to allow a supplier to obtain the requested security clearance. According to the requirements of the Identified User, the valid security certifications requested under a CAF will have to be provided either with the Supplier's "response" before the date of issue of a Standing Offer or according to the security information indicated in the CAF.
- c. Suppliers are responsible for verifying that all the information requested concerning the security clearance required to respond to the call-up is provided in their response to the CAF.

7.8.5 Evaluation of proposed resources

The skills and experience of the proposed resources will be evaluated according to the requirements indicated in Annex A, Statement of Requirements or identified in the CAF; the Identified User may ask for proof that official training was acquired, as well as references. Canada reserves the right to ask a supplier for references in order to verify the accuracy of the information provided. If the references do not confirm the information provided by the Supplier, Canada may consider the response as non-responsive and proceed with the issuing of a new CAF to one or more suppliers or issue a call-up to the next supplier in the ranking.

In the event that two or more suppliers propose the same resource, note that the points obtained under each "response" will be handled individually. Canada will not interpret the information provided to establish the points of a resource or of a "response". Suppliers are responsible for submitting all relevant information to Canada for the evaluation of the proposed resources. This information must be clear and concise and not leave any room for interpretation.

Suppliers must demonstrate the experience of each proposed resource and indicate it in months. For illustrative purposes, one (1) year of experience corresponds to 1,500 hours or 200 days of work at 7.5 hours per day or 125 hours per month. When calculating the months and years of experience, months of experience that overlap must be counted only once (e.g., if Project 1 took place from July 2016 to December 2016 and Project 2 took place from October 2016 to January 2017, then the total months of experience for the two projects referenced is eight (8) months).

When a supplier is asked for information concerning the skills or experience of the proposed resources, it must provide detailed and complete information indicating where, when (month and year) and how (through which activities/responsibilities) the skills and experience were acquired. Experience acquired when studying will not be considered as professional experience. All work experience required must have been acquired in a legitimate work environment and not as part of studies. Co-op terms are considered work experience provided

they are related to the required services. Months of experience indicated for a project that overlaps with another project as referenced above will be counted only once.

If a supplier is asked to provide information or proof of education for the proposed person, this person must have completed his or her studies at a Canadian university, college or recognized secondary school* or equivalent certified by a Canadian recognized* studies evaluation service, if the training was done abroad.

**The list of recognized organizations is posted on the Canadian Information Centre for International Credentials website.*

When a supplier is asked to provide proof of certification of a proposed resource, it must submit a copy of the certification obtained or proof demonstrating that the resource successfully completed the certification program.

7.9 Call-up Instrument

The work will be authorized by the Identified User by signing the most recent version of Call-Up against the Standing Offer form TPSGC-PWGSC 942, which will be automatically attached to the CAF.

7.10 Limitation of Call-ups for Identified User

Each Call-Up against a Standing Offer must not exceed **\$400,000.00** (applicable taxes included). The Standing Offer Authority or its representative must authorize a call-up that exceeds this limit.

7.11 Priority of Documents

If there is a discrepancy between the wordings 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) Call-up against the Standing Offer, including annexes and CAF (Call-up instrument);
- (b) The Articles of the Standing Offer;
- (c) General Conditions 2005 (2016-04-04), General Conditions – Standing Offer – Goods and Services
- (d) Annex A, Statement of Requirements;
- (e) Annex B, Basis of payment;
- (f) Annex C, Security Requirements Check List (SRCL);
- (g) Annex D, Contractor Disclosure of Foreground Information;
- (h) Annex E, Visit Clearance Request;
- (i) Offeror's offer dated _____, "clarified on _____" **or** "as modified on _____".

7.12 Certifications

The continuous compliance with the certifications provided by the Offeror with its offer and the ongoing cooperation in providing additional information are conditions of issuance of the Standing Offer (SO). Certifications are subject to verification by Canada during the entire period of the SO and of any resulting contract that would continue beyond the period of the SO. If the Offeror does not comply with any certification, fails to provide the additional information, or if it is determined that any certification made by the Supplier in its offer is untrue, whether made knowingly or unknowingly, Canada has the right to terminate any resulting contract for default and set aside the Standing Offer.

The Supplier must also certify that the certification of Canadian content that was provided by him is accurate and complete and that the goods or services, or both, to be provided under the Contract meet the definition in clause A3050T.

The Supplier must keep proper records and documentation on the origin of the goods or services, or both, supplied to Canada. Except with prior written authorization from the contracting authority, the Supplier cannot dispose of records or documentation for a period of six (6) years beginning on the latest of the following dates: the final payment date under the Contract or the resolution date of any complaint or dispute under the Contract. All such records and documentation shall at all times during the aforementioned retention period be open to audit, inspection and examination by the authorized representatives of Canada, who may make copies and take extracts thereof. The Supplier must provide all facilities for such audits, inspections and examinations, and must furnish all such information as the representatives of Canada may from time to time require with respect to such records and documentation.

Nothing in this clause must be interpreted as limiting the rights and remedies which Canada may otherwise have in relation to or pursuant to this contract.

7.13 Applicable Laws

The Standing Offer and any contract resulting from the Standing Offer must be interpreted and governed, and the relations between the parties determined, by the laws in force in _____. *(specified by the Offeror in its offer).*

7.14 Confirmation of Qualification

7.14.1 The Supplier must continue to meet all the qualification requirements related to the SO during the entire period of the SO. Any certification provided by the Supplier must be true on the date of the issuance of the SO and remain true throughout the period of the SO. The Supplier must immediately notify the SO Authority if it no longer meets any of the requirements of the SO.

7.14.2 The SO Authority may require the Supplier to confirm its qualification at any time and provide evidence to support its confirmation. If the Supplier no longer meets any of the requirements for qualification, Canada, at its discretion, may choose to

- a. suspend authority for the use of the SO until the Supplier has demonstrated, to the satisfaction of Canada, that it meets the requirements in respect of which it has been found deficient. During this time, no call-ups will be made under the SO;
- b. suspend authority for the use of the SO for specific resource categories until the Supplier has demonstrated, to the satisfaction of Canada, that it meets the requirements in respect of which it has been found deficient. During this time, no call-ups will be made under the SO for those categories;
- c. set aside the SO or the Supplier's qualification for specific resource categories, in which case the Supplier will not be allowed to submit a new offer for consideration until the requirement is re-competed.

7.15 Environmental considerations

As part of Canada's policy directing federal departments and agencies to take the necessary steps to acquire goods and services that have a lower impact on the environment than those traditionally acquired, suppliers should consider the following:

Paper consumption:

- Provide and transmit draft reports, final reports and bids in electronic format. Should printed material be required, double-sided printing in black and white format is the default unless otherwise specified by the Identified User.
- Printed material is requested on minimum recycled content of 30% and/or certified as originating from a sustainably managed forest.
- Recycle unneeded printed documents (in accordance with security requirements).

Travel requirements, where applicable:

- All parties are encouraged to use video and/or teleconferencing where possible to cut down on unnecessary travel.
- Use public/green transit where feasible.

7.16 Supplier – Joint Venture (as applicable)

- (a) The Supplier confirms that the name of the joint venture is _____ and that it comprises the following members: *[Members listed in the initial Offer by the Offeror]*.
- (b) With respect to the relationship between the members of the joint venture, each member agrees, represents and warrants (as applicable) that
 - i. _____ has been appointed as the “representative member” of the joint venture and has full authority to act as agent/mandatary for each member regarding all matters relating to the Standing Offer;
 - ii. by giving notice to the representative member, Canada will be considered to have given notice to all the members of the joint venture;
 - iii. all payments made by Canada to the representative member under the Contract will act as a release by all the members of the joint venture.
- (c) All the members agree that Canada may terminate or set aside, at its discretion, the Standing Offer or any call-up if there is a dispute among the members that, in Canada's opinion, affects the performance of the work in any way.
- (d) All the members are jointly and severally liable or solidarily liable for carrying out the terms and the conditions of the Standing Offer.
- (e) The members of the joint venture acknowledge that any change in the membership of the joint venture (i.e. a change in the number of members or the substitution of another legal entity for an existing member) constitutes an assignment and is subject to the assignment provisions of the General Conditions.
- (f) The members of the joint venture acknowledge that all security and controlled goods requirements in the Contract, if any, apply to each member of the joint venture.

Note to suppliers: This clause will be deleted if the Supplier is not a joint venture. If the Supplier is a joint venture, this clause will be completed with information provided in its offer.

7.17 Intellectual Property (IP) arising from DRDC's Requirements

As stipulated in article 29 of General Conditions 2040 (2016-04-04), IP rights arising from the performance of the work under one or more call-ups will belong to the Supplier unless Canada raises one of the following exceptions:

1. National security;
2. Where statutes, regulations, or prior obligations of the Crown to a third party or parties preclude Supplier ownership of the foreground IP;
3. When the Supplier declares in writing that it is not interested in owning the foreground IP.
4. Where the main purpose of the contract with Canada, or of the deliverables contracted for, is:
 - o to generate knowledge and information for public dissemination.
 - o to augment an existing body of Crown background IP as a prerequisite to the transfer of the augmented background IP to the private sector, through licensing or assignment of ownership (not necessarily to the original contractor), for the purposes of commercial exploitation.
 - o to deliver a not-yet fully developed component or subsystem that will be incorporated into a complete system at a later date, as a prerequisite to the planned transfer of the complete system to the private sector, through licensing or assignment of ownership, for the purposes of commercial exploitation.
5. Where the foreground IP consists of material subject to copyright, with the exception of computer software and all documentation pertaining to that software.
6. Canada may also take ownership of intellectual property in circumstances where it is justified but not provided for above.

Each call-up for which Canada will retain the IP will include Supplemental General Condition K3410C, and the associated exception.

B. RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from a call-up against the Standing Offer.

7.1 Statement of Requirement

The supplier must carry out the work and / or provide the requested resources identified in the Call-up against the Standing Offer.

7.2 Standard Clauses and Conditions

7.2.1 General Conditions

2040 (2016-04-04), General Conditions - Research and Development, apply to and form part of the Contract.

7.2.2 Supplemental General Conditions, when applicable

4002 (2010-08-16), Software Development or Modification Services

K3410C (2015-02-25), Canada to Own Intellectual Property Rights in Foreground Information

7.2.3 Security Requirements

The security requirements identified on the SRCL and all other related terms, which apply to this contract, are specified in the CAF and makes part of the call-up.

7.3 Period of the Contract

The period of the work must be in accordance with the duration indicated in the call-up.

7.4 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a PSSA pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with Contracting Policy Notice: 2012-2 of the Treasury Board Secretariat of Canada.

7.5 Payment

7.5.1 Basis of Payment

One or more of the basis of payment options, described below, will be used in the call-up.

7.5.1.1 [Option 1] Professional or Scientific Services Subject to a Firm Price

For professional or scientific services requested by Canada, Canada will pay the Supplier the firm price stipulated in the Call-Up, according to the firm all-inclusive hourly rates and other financial terms established under Annex B, Basis of Payment. Customs duties are included, and applicable taxes are extra.

7.5.1.2 [Option 2] Professional or Scientific Services Subject to a Maximum Limit

For professional or scientific services requested by Canada, Canada will pay the Supplier up to the ceiling price stipulated in the Call-Up, according to the firm all-inclusive hourly rates and other financial terms established under Annex B, Basis of Payment. Customs duties are included, and applicable taxes are extra.

The ceiling price is the maximum amount of money that may be paid to a supplier. By establishing a ceiling price, the Supplier must fulfill all of its contractual obligations relative to the work to which this basis of payment applies without additional payment, whether or not the actual costs incurred exceed the ceiling price.

7.5.1.3 [Option 3] Professional or Scientific Services Subject to a Limitation of Expenditure

For professional or scientific services requested by Canada, Canada will pay the Supplier for costs that it reasonably and properly incurred in the performance of the work, in accordance with the firm all-inclusive hourly rates and other financial terms established under Annex B, Basis of Payment, up to the limitation of expenditure specified in the Call-Up. Customs duties are included, and applicable taxes are extra.

7.5.1.4 [Option 3] Limitation of expenditure

- i. Canada's total liability to the Supplier under the Contract must not exceed the amount set out in the Call-Up. Customs duties are included, and applicable taxes are extra.
- ii. 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 Supplier unless these design changes, modifications or interpretations have been approved, in writing, by the SO Authority before their incorporation into the requirements. The Supplier is not required to perform any work or provide any service that would result in Canada's total liability being increased unless the increase has been authorized in writing by the SO Authority. The Supplier must notify the SO Authority in writing as to the adequacy of this sum
 - a. when it is 75 percent committed, or
 - b. four months before the Contract expiry date, or
 - c. as soon as the Supplier considers that the contract funds are inadequate for the completion of the work,whichever comes first.
- iii. If the notification is for inadequate contract funds, the Supplier must provide to Canada a written estimate for the additional funds required. Providing this information does not increase Canada's liability.

7.5.2 Other Financial Terms

7.5.2.1 Additional Costs

Canada will not reimburse labor for the time spent by resources commuting between any geographic location and DRDC facilities.

The Supplier acknowledges that this Contract was awarded following a competitive SO for the provision of professional and scientific resources in R&D. No additional charges will be allowed to compensate for errors, oversights or underestimates made by the Supplier in its firm all-inclusive hourly rates.

7.5.2.2 Travel and Living Expenses

Travel and living expenses won't be reimbursed for any travel between the Supplier facilities, its affiliates or the location of proposed resources and DRDC facilities.

However, there may be cases where proposed resources are required to travel to meet particular DRDC needs. Where required, the terms and conditions applicable to travel and living expenses, identified in appendices B, C and D of the Treasury Board's Directive on Travel, will be included in the call-up basis of payment terms and conditions or according to the terms and conditions established under Annex B, Basis of Payment.

7.5.3 Limitation of Price

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

7.5.4 Methods of Payment

One or more of the method of payment options described below will be used in the call-up.

7.5.4.1 [Option 1] Method of payment – Single payment

Canada will pay the Supplier when the work is completed and delivered or the services are rendered 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 or services performed have been accepted by Canada.

7.5.4.2 [Option 2] Method of payment – Progress payment

Canada will make progress payments in accordance with the payment provisions of the Contract, no more than once a month, for costs incurred in the performance of the work up to 90 percent of the amount claimed and approved by Canada if

- (a) an accurate and complete claim for payment using form PWGSC-TPSGC 1111 (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/1111.pdf>), 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) the amount claimed is in accordance with the basis of payment;
- (c) the total amount for all progress payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Contract;
- (d) all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by authorized representatives.

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

Progress payments are interim payments only. Canada may conduct a government audit and interim time and cost verifications and reserves the rights to make adjustments from time to time during the performance of the work. Any overpayment resulting from progress payments or otherwise must be refunded promptly to Canada.

7.5.5 SACC Manual Clauses

SACC Manual clause [A9117C](#) (2007-11-30), T1204 - Direct Request by Customer Department

7.6 Invoicing Instructions

The Supplier must submit invoices in accordance with article 13 of General Conditions 2040, entitled "Invoice Submission". Invoices cannot be submitted until all work or services identified in the invoice have been completed or performed.

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 and vouchers for all travel and living expenses, if applicable;
- d. a copy of the monthly progress report, if applicable.

Invoices must be distributed as follows:

An electronic copy must be sent to the email address of the Identified User indicated on the call-up, or in accordance with any other indications identified in the call-up.

7.7 Insurance - No special requirements

SACC Manual clause [G1005C](#) (2016-01-28), Insurance

7.8 Controlled Goods Program

SACC Manual clause – [B4060C](#) (2011-05-16), Controlled Goods
SACC Manual clause – [A9131C](#) (2014-11-27), Controlled Goods Program

7.9 Defense Contract

SACC Manual clause – [A9006C](#) (2012-07-16), Defense Contract

7.10 Identification Protocol Responsibilities

The Contractor will be responsible for ensuring that each of its agents, representatives or subcontractors (hereinafter referred to as Contractor Representatives) complies with the following self-identification requirements:

- a. Contractor Representatives who attend a Government of Canada meeting (whether internal or external to Canada's offices) must identify if an individual is not a permanent employee of the Contractor prior to the commencement of the meeting, to ensure that each meeting participant is aware of the fact that the individual is not a Contractor permanent employee;
- b. During the performance of any Work at a Government of Canada site, each Contractor Representative must be clearly identified at all times as being a Contractor Representative;

- c. If a Contractor Representative requires the use of the Government of Canada's email system in the performance of the Work, then the individual must clearly identify him or herself as an agent or subcontractor of the Contractor in all electronic mail in the signature block as well as under "Properties". This identification protocol must also be used in all other correspondence, communication, and documentation;
- d. If Canada determines that the Contractor is in breach of any obligation stated in this Article, upon written notice from Canada the Contractor must submit a written action plan describing corrective measures it will implement to eliminate the recurrence of the problem. The Contractor will have five working days to deliver the action plan to the Client and the Contracting Authority, and ten working days to rectify the underlying problem;
- e. In addition to any other rights it has under the Contract, Canada may terminate the Contract for default if the corrective measures required of the Contractor described above are not met;
- f. Any person assigned to the performance of any part of the Work that is performed on government premises must wear in a conspicuous place the identification badge issued to that person by Canada.
- g. When a person is required to wear a safety helmet, the Contractor, if requested to do so by the Contracting Authority, must paint the number appearing on the identification badge on the front of the safety helmet.

7.11 Canadian Forces Site Regulations

The Contractor must comply with all standing orders or other regulations, instructions and directives in force on the site where the Work is performed.

7.12 Progress Report

When indicated in the CAF, the Supplier must submit monthly reports on the progress of the work in electronic format to the Technical Authority and the Contracting Authority.

Unless otherwise specified in the CAF, the progress report must contain two parts:

PART A. The Supplier must answer the following three questions:

- (i) Is the project on schedule?
- (ii) Is the project within budget?
- (iii) Is the project free of any areas of concern in which the assistance or guidance of Canada may be required?

Each negative response must be supported with an explanation.

PART B. A narrative report, brief yet sufficiently detailed to enable the Technical Authority to evaluate the progress of the Work, containing as a minimum:

- (i) a description of the progress of each task and of the Work as a whole during the period of the report. Sufficient sketches, diagrams, photographs, etc., must be included, if necessary, to describe the progress accomplished.
- (ii) an explanation of any variation from the work plan.
- (iii) a description of trips or conferences connected with the Contract during the period of the report.

ANNEX A - STATEMENT OF REQUIREMENTS

1. HISTORICAL BACKGROUND

Science and technology (S&T) plays a critical role in contributing to Canada's defence and national security, providing the technological and knowledge advantage necessary to develop the right military capabilities and prepare for an uncertain future. Defence Research and Development Canada (DRDC) has a unique expertise in a number of scientific activity sectors: Combat Systems, Information Systems, Optronic Systems and S&T Support. Research work carried out in support of the science program is guided by DRDC's strategic objectives and by the Defence and Security S&T Strategy.

Key fields of expertise include the ARMY and its Command, Control, Communications, Computers, Intelligence Surveillance and Reconnaissance (C4ISR) program – Ground tactical; the AIR FORCE and its Air Force Integration, Air Reach, Air Power and Air Agile programs; the NAVY and its Force Structure, Above Water Warfare, Underwater Warfare, Maritime Information Warfare and Naval Platforms programs; and JOINT FORCE DEVELOPMENT and its Cyber Operations, Space Operations, Command and Control/Communication and Information Systems (C2/CIS), and Intelligence, Surveillance and Reconnaissance programs. Even though all of this expertise and the associated scientific and technical personnel and infrastructures are distributed across all DRDC Centres, a vast majority of the services required will be required at DRDC Valcartier. EO-IR service requirements involve mainly the following DRDC sections: Spectral and Geospatial Exploitation (SGE), Electro-Optical Warfare (EOW); Tactical Surveillance and Reconnaissance (TSR); and Defence Engineering Valcartier (DEV). For more details on the DRDC and its various Centres, consult the DRDC website at: <http://www.drdc-rddc.gc.ca/en/index.page>.

One of DRDC's mandates is to support the Canadian Forces (CF) in its electro-optical system acquisition process by technically translating their operational needs, evaluating sensor performance or evaluating the potential of emerging technologies. DRDC also studies EO systems for protecting military platforms (air, land or sea) and their occupants. These EO technologies require proximity electronics to be integrated into them in order to evaluate them or extend their capability, and EO systems to be integrated into the platforms. EO systems can also be improved by developing algorithms and technical solutions to facilitate the use of EO systems data and transmitting tactical data in real time or near-real time. To carry out these mandates, DRDC must be able to operate EO systems with various technology levels (TRL1 to TRL9). The development of new concepts for instruments in support of research programs involves expertise in hyperspectral spectrometry. Since 1998, DRDC has been working to develop new passive infrared sensors to improve detection, recognition and identification capacity. We are particularly interested in new capacities for soldiers. The majority of the work requires the generation of laser signals, hence the interest in this field. Information improvement also involves the fusion of images from various systems; research is required in this field (for example, night vision). Finally, since 1985, DRDC has been involved in measurement campaigns for aircraft infrared signatures and their protection systems. DRDC is currently developing a set of tools and algorithms to exploit these signatures.

2. OBJECTIVE

DRDC has ad-hoc requirements for professional and scientific services related to research and development in the electro-optical and infrared field. These services cover all spectrums involved, and range from design, development and manufacturing to characterization, software development and operations. DRDC offers these services to the Canadian Armed Forces for operational needs for which response time is essential. The capability to access these services readily is key to delivering the mandates assigned to it. Standing offers, which can support the complexity and scope of all the services required, are therefore essential. Specifically, the range of services required cover but are not limited to the following main areas:

1. Characterization of EO systems
2. Opto-mechanics
3. Electronics
4. Architecture, programming, software engineering and systems engineering
5. EO systems operation
6. Hyperspectral systems
7. EO systems integration support
8. Airborne platforms
9. Laser and LIDAR

10. Processing, analysis, integration and fusion of images and signatures
11. Aircraft signatures

These services will focus on different electro-optical systems consisting of but not limited to:

- wide-band, hyperspectral or multispectral imaging or non-imaging systems;
- infrared spectrometers;
- single- or multi-spectrum laser systems in one or more of the ultraviolet, visible, near infrared, or shortwave, midwave or longwave infrared wavebands.

3. ACRONYMS

CAF	Confirmation of Availability Form
CF	Canadian Forces
DRDC	Defence Research and Development Canada
EO, EO-IR	Electro-optical, Electro-optical and infrared
FPGA	Field Programmable Gate Array
L16	Link 16
4G LTE	4th Generation Long Term Evolution
MC	Mandatory Criterion/Criteria
MTF	Modulated Transfer Function
PRC	Point-Rated Criterion/Criteria
R&D	Research and Development
S&T	Science and Technology
TBD	To be determined
TCDL	Tactical Common Data Link
TRL	Technology Readiness Level
UPS	Uninterruptible Power Supply
WAMI	Wide Area Motion Imagery

4. SCOPE OF POTENTIAL WORK

4.1. DEFINITIONS

Electro-optical system (EO system)

EO systems include but are not limited to: wide-band, hyperspectral or multispectral imaging or non-imaging systems, infrared spectrometers, and laser systems in one or more of the ultraviolet, visible, near infrared, or shortwave, midwave or longwave infrared wavebands. An EO system includes an integrated system (serviceable or not) as well as each of the constituent components, whether integrated or not. The specific nomenclature of the EO systems will be identified in the CAF and call-ups.

Software

Software includes but is not limited to: algorithms, routines, firmware, microcomputer software, programs, models, modules and interfaces used among other things to control, interface and simulate hardware or to predict, simulate, acquire, manipulate, analyze and validate data, results, databases, images and signatures. The various software languages will be indicated in the CAFs and call-ups.

Hardware

Hardware includes but is not limited to: EO systems and their optical, mechanical, opto-mechanical, electrical or electronic components and modules; acquisition, measurement, backup or handling instruments or systems; targets; experiment set-ups, etc. The specific nomenclature of the hardware will be identified in the CAFs and call-ups.

4.2. POTENTIAL SERVICES REQUIRED, INCLUDING BUT NOT LIMITED TO

- Characterization of EO systems
- Design, production and integration of optical, electrical, electronic, mechanical or opto-mechanical components
- Design, production and integration of experiment set-ups
- Design, production and integration of software

- Development of physical models
- Design, development and integration of EO systems
- Maintenance and repair of EO systems
- Operation of EO systems
- Integration of EO systems and other hardware on various platforms
- Processing and analysis of data, images, signals and signatures

4.3. EVALUATION CRITERIA AND RELATED INFORMATION

4.3.1. Mandatory Criteria

4.3.1.1. The mandatory criteria (MC) described in section 4.4 are fixed and should not change from one CAF to another for the same resource category, except for the level of experience required. There are two types of MC, namely, MC1, which assesses graduation level, and MC2, which assesses experience in the EO field.

4.3.1.2. For the MC2 criterion, the proposed resources must have acquired twelve (12) to one hundred and twenty (120) months of work experience in the EO field in relation to the resource category. The minimum number of months required is determined by the experience level of the resource requested in the CAF: Level 1: twelve (12) months; Level 2: thirty-six (36) months; and Level 3: one hundred and twenty (120) months.

4.3.1.3. When a CAF is issued, it may happen that several resource categories meet the same DRDC requirement. In such cases, the DRDC reserves the right to identify more than one resource category for the same requirement. Therefore, a proposed resource must have the graduation level required under one of the MC1 mandatory criteria and have acquired the required work experience associated with the MC2 mandatory criteria; as defined in this Annex and outlined in the CAFs.

4.3.2. Point-Rated Criteria

The examples of point-rated criteria (PRC) described in section 4.4 are meant to partially and succinctly indicate the potential scope of the PRC for the purpose of evaluating the resources proposed by the Suppliers in response to a CAF. The different PRC presented by resource category do not indicate the number of PRC to be used or their individual or minimum score or their total score. The different PRC, their scope, number and weightings will be determined on an “as and when required” by DRDC basis and outlined in the CAFs. It should be noted that certain PRC could be subject to the achievement of a minimum rating in order for a proposed resource to be selected.

4.4. RESOURCE CATEGORIES AND RELATED INFORMATION

To fulfill its mandate and meet its needs, the DRDC requires a wide variety of services and deliverables that could be provided by certain resources on an “as and when required” basis in the categories indicated below.

The examples of potential work described in this Annex are meant to partially and succinctly indicate the types of work and tasks to which a resource could be assigned by category. While certain resource categories may be required in more than one or a majority of potentially required services, only one example per category is provided here. Each CAF will include a complete description of the work to be done and the expected deliverables, as well as all related MC and PRC.

4.4.1. EO RESEARCH TECHNICIAN IN PHYSICS

4.4.1.1. Examples of Potential Work Associated with the Category

Without limitation, the technician is expected to

- (a) participate in the laboratory characterization of the performance of optical systems. This includes, but is not limited to, preparing systems for assembly, aligning them, taking measurements, analyzing measurements and writing scientific reports;
- (b) participate in the characterization of the performance of day/night vision sensors in the field. This includes, but is not limited to, preparing sensors for assembly, aligning them, taking measurements, analyzing measurements and writing scientific reports.

4.4.1.2. Mandatory Criteria (MC) Associated with the Category

MC1 Training	The proposed resource must have a diploma in Engineering Physics Technology OR a post-secondary diploma in Science with an Attestation of Collegial Studies in the physics field and twenty-four (24) months of work experience in general physics, therefore not exclusively in the EO field.
MC2 Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level requested in the CAF) of work experience in physics in the EO field.

4.4.1.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

PRC1 Experience in calibrating and handling EO measurement instruments	Max pts: 10 pts
	Min pts: n/a
The proposed resource has less than six (6) months of experience in calibrating and handling EO measurement instruments.	0 pts
The proposed resource has at least six (6) months of experience in calibrating and handling EO measurement instruments.	2 pts
The proposed resource has at least twelve (12) months of experience in calibrating and handling EO measurement instruments.	4 pts
The proposed resource has at least fifteen (15) months of experience in calibrating and handling EO measurement instruments.	6 pts
The proposed resource has at least eighteen (18) months of experience in calibrating and handling EO measurement instruments.	8 pts
The proposed resource has at least twenty-one (21) months of experience in calibrating and handling EO measurement instruments.	10 pts
PRC2 Experience in calibrating and handling optical systems covering ultraviolet (UV) to infrared (IR) and including image intensifier systems	Max pts: 10 pts
	Min pts: n/a
The proposed resource has calibrated and handled fewer than two (2) different systems covering UV to IR and including image intensifier systems.	0 pts

The proposed resource has calibrated and handled at least two (2) different systems covering UV to IR.	2 pts
The proposed resource has calibrated and handled at least two (2) different systems covering UV to IR, including at least one (1) image intensifier system.	4 pts
The proposed resource has calibrated and handled at least four (4) different systems covering UV to IR, including at least one (1) image intensifier system.	6 pts
The proposed resource has calibrated and handled at least four (4) different systems covering UV to IR, including at least two (2) image intensifier systems.	8 pts
The proposed resource has calibrated and handled at least five (5) different systems covering UV to IR, including at least two (2) image intensifier systems.	10 pts

PRC3 Experience in taking the following measurements on vision systems and/or optical components	Max pts: 12 pts
<ul style="list-style-type: none"> (a) on-axis MTF (b) off-axis MTF (c) distortion (d) relative illumination (e) f-stop (f/#) (f) spectral transmission 	Min pts: To be determined (TBD)

The proposed resource has participated in at least two (2) different projects involving on-axis MTF measurement in vision systems or optical components.	2 pts
The proposed resource has participated in at least two (2) different projects involving off-axis MTF measurement in vision systems or optical components.	2 pts
The proposed resource has participated in at least two (2) different projects involving distortion measurement in vision systems or optical components.	2 pts
The proposed resource has participated in at least two (2) different projects involving relative illumination measurement in vision systems or optical components.	2 pts
The proposed resource has participated in at least two (2) different projects involving f/# measurement in vision systems or optical components.	2 pts
The proposed resource has participated in at least two (2) different projects involving spectral transmission measurement in vision systems or optical components.	2 pts

PRC4 Experience in field testing	Max pts: 5 pts
<ul style="list-style-type: none"> • For the purpose of this criterion, a field test campaign must be at least four (4) days in duration and include equipment set-up and tear-down. 	Min pts: n/a

The proposed resource has participated in fewer than two (2) field test campaigns involving the calibration and handling of EO systems.	0 pts
The proposed resource has participated in at least two (2) field test campaigns involving the calibration and handling of EO systems.	2 pts

The proposed resource has participated in at least four (4) field test campaigns involving the calibration and handling of EO systems. **4 pts**

The proposed resource has participated in at least six (6) field test campaigns involving the calibration and handling of EO systems. **5 pts**

TOTAL	Max pts: 37 pts
	Min pts: TBD

4.4.1.4. Examples of Deliverables Associated with the Category

- (a) Functional assemblies
- (b) Reports describing:
 - i. The methodology used
 - ii. The experimental results obtained in the form of tables and/or graphs
 - iii. A brief analysis of the data

4.4.2. EO RESEARCH TECHNICIAN IN MECHANICS

4.4.2.1. Examples of Potential Work Associated with the Category

Without limitation, the technician is expected to

- (a) participate in designing and producing opto-mechanical drawings using Computer-Assisted Design (CAD) (2 dimensions and 3 dimensions);
- (b) participate in solid modeling and rendering;
- (c) participate in finite element analysis;
- (d) participate in the manufacturing and integration of opto-mechanical components.

4.4.2.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have a diploma in Mechanical Engineering Technology OR a post-secondary diploma in Science with an Attestation of Collegial Studies in the mechanics field and twenty-four (24) months of work experience in general mechanics, therefore not exclusively in the EO field.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level requested in the CAF) of work experience in mechanics in the EO field.

4.4.2.3. Examples of POINT-RATED CRITERIA (PRC) Associated with the Category

		Max pts: 12 pts
PRC1 Experience in using 2D and 3D CAD tools		Min pts: n/a
The proposed resource has less than twelve (12) months of experience in using 2D and 3D CAD tools.		0 pts
The proposed resource has at least twelve (12) months of experience in using 2D and 3D CAD tools.		3 pts
The proposed resource has at least eighteen (18) months of experience in using 2D and 3D CAD tools.		6 pts
The proposed resource has at least twenty-four (24) months of experience in using 2D and 3D CAD tools.		9 pts
The proposed resource has at least thirty-six (36) months of experience in using 2D and 3D CAD tools.		12 pts
		Max pts: 12 pts
PRC2 Experience in finite element modeling and analysis		Min pts: n/a
The proposed resource has conducted finite element modeling and analysis of fewer than four (4) opto-mechanical components.		0 pts
The proposed resource has conducted finite element modeling and analysis of at least four (4) opto-mechanical components		3 pts

The proposed resource has conducted finite element modeling and analysis of at least four (4) opto-mechanical components specifically dedicated to EO systems. **6 pts**

The proposed resource has conducted finite element modeling and analysis of at least six (6) opto-mechanical components. **9 pts**

The proposed resource has conducted finite element modeling and analysis of at least six (6) opto-mechanical components specifically dedicated to EO systems. **12 pts**

PRC3 Experience in manufacturing and integrating opto-mechanical elements in EO systems

Max pts: 12 pts

Min pts: n/a

- For the purpose of this criterion, the proposed resource must have worked at least forty (40) hours per project on manufacturing and integration combined.

The proposed resource has not participated in any projects involving the manufacturing and integration of opto-mechanical components in EO systems. **0 pts**

The proposed resource has participated in one (1) project involving the manufacturing and integration of opto-mechanical components in EO systems. **2 pts**

The proposed resource has participated in two (2) different projects involving the manufacturing and integration of opto-mechanical components in EO systems. **4 pts**

The proposed resource has participated in three (3) different projects involving the manufacturing and integration of opto-mechanical components in EO systems. **6 pts**

The proposed resource has participated in four (4) different projects involving the manufacturing and integration of opto-mechanical components in EO systems. **8 pts**

The proposed resource has participated in five (5) different projects involving the manufacturing and integration of opto-mechanical components in EO systems. **10 pts**

The proposed resource has participated in at least six (6) different projects involving the manufacturing and integration of opto-mechanical components in EO systems. **12 pts**

TOTAL

Max pts: 36 pts

Min pts: TBD

4.4.2.4. Examples of Deliverables Associated with the Category

- (a) Drawings of opto-mechanical components
- (b) Solid modeling and rendering of opto-mechanical components
- (c) Finite element analysis of opto-mechanical components
- (d) Integrated or non-integrated opto-mechanical components

4.4.3. EO RESEARCH TECHNICIAN IN ELECTRONICS

4.4.3.1. Examples of Potential Work Associated with the Category

Without limitation, the technician is expected to

- (a) participate in the preparation (modification, improvement, calibration and laboratory measurement taking) of the EO system and measurement instruments;
- (b) participate in performance analysis;
- (c) participate in the implementation, calibration, operation, repair and maintenance of the EO system, targets and measurement instruments during field testing;
- (d) participate in measurement taking and backup during field testing;
- (e) participate in the writing of reports.

4.4.3.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have a diploma in Electronics Technology OR a post-secondary diploma in Science with an Attestation of Collegial Studies in the electronics field and twenty-four (24) months of work experience in general electronics, therefore not exclusively in the EO field.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level requested in the CAF) of work experience in electronics in the EO field.

4.4.3.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

PRC1 Experience in calibrating and handling EO systems and their related measurement instruments	Max pts: 10 pts
	Min pts: n/a
The proposed resource has calibrated and handled fewer than four (4) different EO systems and their related measurement instruments.	0 pts
The proposed resource has calibrated and handled at least four (4) different EO systems and their related measurement instruments.	2 pts
The proposed resource has calibrated and handled at least four (4) different EO systems, at least two (2) of which cover the near-infrared range, and their related measurement instruments.	4 pts
The proposed resource has calibrated and handled at least four (4) different EO systems covering the near-infrared range and their related measurement instruments.	6 pts
The proposed resource has calibrated and handled at least six (6) different EO systems, at least four (4) of which cover the near-infrared range, and their related measurement instruments.	8 pts
The proposed resource has calibrated and handled at least six (6) different EO systems covering the near-infrared range and their related measurement instruments.	10 pts

	Max pts: 12 pts
PRC2 Experience in modifying the electronic components of EO systems	Min pts: n/a
<ul style="list-style-type: none"> • For the purpose of this criterion, the term “different” applies either to the function of the electronic component within the same EO system or to the components of a same function or not, but in multiple EO systems. 	
The proposed resource has modified fewer than four (4) different electronic components of EO systems.	0 pts
The proposed resource has modified at least four (4) different electronic components of EO systems.	3 pts
The proposed resource has modified at least six (6) different electronic components of EO systems.	6 pts
The proposed resource has modified at least eight (8) different electronic components of EO systems.	9 pts
The proposed resource has modified at least ten (10) different electronic components of EO systems.	12 pts
	Max pts: 20 pts
PRC3 Experience in handling (calibrating and operating) and maintaining EO systems during field testing	Min pts: n/a
<ul style="list-style-type: none"> • For the purpose of this criterion, a field test campaign must be at least five (5) days in duration and include equipment set-up and tear-down. 	
The proposed resource has participated in fewer than two (2) field test campaigns involving the calibration, handling and maintenance of EO systems.	0 pts
The proposed resource has participated in at least two (2) field test campaigns involving the calibration, handling and maintenance of EO systems.	4 pts
The proposed resource has participated in at least two (2) field test campaigns involving the calibration, handling and maintenance of EO systems, of which at least one (1) covers the near infrared range.	8 pts
The proposed resource has participated in at least two (2) field test campaigns involving the calibration, handling and maintenance of EO systems covering the near infrared range.	12 pts
The proposed resource has participated in at least four (4) field test campaigns involving the calibration, handling and maintenance of EO systems EO, of which at least two (2) cover the near infrared range.	16 pts
The proposed resource has participated in at least four (4) field test campaigns involving the calibration, handling and maintenance of EO systems EO covering the near infrared range.	20 pts
	Max pts: 42 pts
TOTAL	Min pts: TBD

4.4.3.4. Examples of Deliverables Associated with the Category

- (a) Functional assemblies
- (b) Modifications made to the EO system and measurement instruments
- (c) A report describing:
 - i. The methodology used
 - ii. The modifications made to the EO system
 - iii. The experimental results obtained in the form of tables and/or graphs, and raw data

4.4.4. EO RESEARCH TECHNICIAN IN MECHANICS - SPECIALIZATION IN TELECOMMUNICATIONS

4.4.4.1. Examples of Potential Work Associated with the Category Without

limitation, the technician is expected to

- (a) participate in analyses of technical problems and the development of strategies to overcome technological challenges;
- (b) participate in investigations, minor fixes and system optimization (e.g., impact analyses, resolution of software problems, technical advice to support the definition of solutions, optimization work).

4.4.4.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have a diploma in Electronics Technology - Telecommunications OR a post-secondary diploma in Science with an Attestation of Collegial Studies in the telecommunications field and twenty-four (24) months of work experience in general telecommunications, therefore not exclusively in the EO field.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level requested in the CAF) of work experience in telecommunications in the EO field.

4.4.4.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

		Max pts: 12 pts
PRC1 Experience in IP network management		Min pts: n/a
The proposed resource has less than six (6) months experience in IP network management.		0 pts
The proposed resource has at least six (6) months of experience in IP network management.		3 pts
The proposed resource has at least twelve (12) months of experience in IP network management.		6 pts
The proposed resource has at least eighteen (18) months of experience in IP network management.		9 pts
The proposed resource has at least twenty-four (24) months of experience in IP network management.		12 pts
		Max pts: 12 pts
PRC2 Experience in scripting language or programming for execution on x86 architecture		Min pts: n/a
The proposed resource has less than six (6) months of experience in scripting language or programming for execution on x86 architecture.		0 pts
The proposed resource has at least six (6) months of experience in scripting language or programming for execution on x86 architecture.		3 pts
The proposed resource has at least twelve (12) months of experience in scripting		6 pts

language or programming for execution on x86 architecture.

The proposed resource has at least eighteen (18) months of experience in scripting language or programming for execution on x86 architecture. **9 pts**

The proposed resource has at least twenty-four (24) months of experience in scripting language or programming for execution on x86 architecture. **12 pts**

CC3 Experience in real-time systems applied to EO sensor systems	Max pts: 12 pts
	Min pts: n/a

The proposed resource has worked on telecommunications on fewer than two (2) different real-time systems applied to EO sensor systems. **0 pts**

The proposed resource has worked on telecommunications on at least two (2) different real-time systems applied to EO sensor systems. **4 pts**

The proposed resource has worked on telecommunications on at least four (4) different real-time systems applied to EO sensor systems. **8 pts**

The proposed resource has worked on telecommunications on at least six (6) different real-time systems applied to EO sensor systems. **12 pts**

CC4 Experience in wireless telecommunications	Max pts: 10 pts
	Min pts: n/a

The proposed resource has less than six (6) months of experience in wireless telecommunications. **0 pts**

The proposed resource has at least six (6) months of experience in wireless telecommunications. **3 pts**

The proposed resource has at least 12 (12) months of experience in wireless telecommunications. **6 pts**

The proposed resource has at least 18 (18) months of experience in wireless telecommunications. **10 pts**

TOTAL	Max pts: 46 pts
	Min pts: TBD

4.4.4.4. Examples of Deliverables Associated with the Category

- (a) Source code
- (b) Systems prototype
- (c) A report describing:
 - i. Technical problem analysis
 - ii. Technical recommendations and opinions

4.4.5. EO ELECTRONICS RESEARCH TECHNICIAN - SPECIALIZATION IN ELECTRO-MECHANICS

4.4.5.1. Examples of Potential Work Associated with the Category

Without limitation, the technician is expected to

- (a) participate in the general maintenance of the EO hyperspectral system and the assessment of needs in repairs, modifications and additions to the EO system material;
- (b) participate in the repair, modification, design, manufacture, addition and integration of material and modules to the EO system;
- (c) participate in tests and measurements for the purposes of checking the work done;
- (d) participate in the preparation of reports and user manuals.

4.4.5.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must hold a diploma in electronics technology OR a post-secondary diploma in science with an Attestation of Collegial Studies in a field of electronics or mechanics and twenty-four (24) months of work experience in the electromechanical field in general, therefore not exclusively in the EO field.
MC2	Experience in EO	The proposed resource must have least twelve (12), thirty-six (36) or one hundred and twenty (120) months (according to the level of resource requested in the CAF) of work experience in electromechanics in the EO field.

4.4.5.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

		Max pts: 15 pts
PRC1 Experience in hyperspectral EO system maintenance		Min pts: n/a
The proposed resource has carried out maintenance on one (1) EO system.		0 pts
The proposed resource has carried out maintenance on at least two (2) different EO systems.		3 pts
The proposed resource has carried out maintenance on at least two (2) different EO systems, of which at least one (1) is a hyperspectral EO system.		6 pts
The proposed resource has carried out maintenance on at least two (2) different hyperspectral EO systems.		9 pts
The proposed resource has carried out maintenance on at least three (3) different EO systems, of which at least two (2) are different hyperspectral EO systems.		12 pts
The proposed resource has carried out maintenance on at least four (4) different EO systems, of which at least two (2) are different hyperspectral EO systems.		15 pts
PRC2 Experience in the design, manufacture and integration of electromechanical components in Fourier transform hyperspectral spectrometry		Max pts: 12 pts
		Min pts: n/a
<ul style="list-style-type: none"> • For the purposes of this criterion, the term “different” is defined by the function of the electromechanical component within the same EO system or as a component with the same function or not, but in multiple EO systems. 		

The proposed resource has designed, manufactured and integrated fewer than two (2) different electromechanical components in Fourier transform hyperspectral spectrometry. **0 pts**

The proposed resource has designed, manufactured and integrated two (2) different electromechanical components in Fourier transform hyperspectral spectrometry. **3 pts**

The proposed resource has designed, manufactured and integrated three (3) different electromechanical components in Fourier transform hyperspectral spectrometry. **6 pts**

The proposed resource has designed, manufactured and integrated four (4) different electromechanical components in Fourier transform hyperspectral spectrometry. **9 pts**

The proposed resource has designed, manufactured and integrated at least five (5) different electromechanical components in Fourier transform hyperspectral spectrometry. **12 pts**

PRC3 Experience in preparing reports and user instructions **Max pts: 6 pts**
Min pts: n/a

The proposed resource has participated in preparing fewer than two (2) reports associated with maintenance work on EO systems and has participated in preparing fewer than two (2) user instruction notices. **0 pts**

The proposed resource has participated in preparing at least two (2) reports associated with maintenance work on EO systems and has participated in preparing at least two (2) user instruction notices. **2 pts**

The proposed resource has participated in preparing at least two (2) reports associated with maintenance work on EO systems and has participated in preparing at least four (4) user instruction notices. **4 pts**

The proposed resource has participated in preparing at least four (4) reports associated with maintenance work on EO systems and has participated in preparing at least four (4) user instruction notices. **6 pts**

TOTAL **Max pts: 33 pts**
Min pts: TBD

4.4.5.4. Examples of Deliverables Associated with the Category

- (a) Functional EO system
- (b) Integrated or non-integrated electromechanical component
- (c) Updated user manual (addition, modification, correction)
- (d) A report describing:
 - i. Maintenance work done
 - ii. Needs in repairs, modifications and additions of material
 - iii. Results of work validation tests in table and/or graph form

4.4.6. EO ELECTRONICS RESEARCH TECHNICIAN - SPECIALIZATION IN ELECTRO-OPTICS

4.4.6.1. Examples of Potential Work Associated with the Category

Without limitation, the technician is expected to

- (a) participate in the general maintenance of the EO system and the assessment of needs in repairs, modifications and additions to the EO system material;
- (b) participate in the repair, modification, design, manufacture, addition and integration of material and modules to the EO system;
- (c) participate in tests and measures for the purposes of checking the work done;
- (d) participate in the preparation of reports and user manuals.

4.4.6.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must hold a diploma in electronics technology OR a post-secondary diploma in science with an Attestation of Collegial Studies in a field of electronics and twenty-four (24) months of work experience in the electro-optical field in general, therefore not exclusively in the EO field.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (according to the level of resource requested in the CAF) of work experience in electro-optics in the EO field.

4.4.6.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

		Max pts: 15 pts
PRC1	Experience in maintaining hyperspectral EO systems	Min pts: n/a
The proposed resource has maintained one (1) EO system.		0 pts
The proposed resource has maintained at least two (2) different EO systems.		3 pts
The proposed resource has maintained at least two (2) different EO systems, of which at least one (1) is a hyperspectral EO system.		6 pts
The proposed resource has maintained at least two (2) different hyperspectral EO systems.		9 pts
The proposed resource has maintained at least three (3) different EO systems, of which at least two (2) are different hyperspectral EO systems.		12 pts
The proposed resource has maintained at least four (4) different EO systems, of which at least two (2) are different hyperspectral EO systems.		15 pts
		Max pts: 12 pts
PRC2	Experience in the design, manufacture and integration of electro-optical components in Fourier transform hyperspectral spectrometry	Min pts: n/a
<ul style="list-style-type: none"> • For the purposes of this criterion, the term “different” is defined by the function of the electro-optical component within the same EO system or as a component with the same function or not, but in multiple EO systems. 		
The proposed resource has designed, manufactured and integrated fewer than two (2) different electro-optical components in Fourier transform hyperspectral		0 pts

spectrometry.

The proposed resource has designed, manufactured and integrated two (2) different electro-optical components in Fourier transform hyperspectral spectrometry. **3 pts**

The proposed resource has designed, manufactured and integrated three (3) different electro-optical components in Fourier transform hyperspectral spectrometry. **6 pts**

The proposed resource has designed, manufactured and integrated four (4) different electro-optical components in Fourier transform hyperspectral spectrometry. **9 pts**

The proposed resource has designed, manufactured and integrated at least five (5) different electro-optical components in Fourier transform hyperspectral spectrometry. **12 pts**

PRC3 Experience in preparing reports and user instructions **Max pts: 6 pts**
Min pts: n/a

The proposed resource has participated in preparing fewer than two (2) reports associated with maintenance work on EO systems and has participated in preparing fewer than two user instruction notices. **0 pts**

The proposed resource has participated in preparing at least two (2) reports associated with maintenance work on EO systems and has participated in preparing at least two (2) user instruction notices. **2 pts**

The proposed resource has participated in preparing at least two (2) reports associated with maintenance work on EO systems and has participated in preparing at least four (4) user instruction notices. **4 pts**

The proposed resource has participated in preparing at least four (4) reports associated with maintenance work on EO systems and has participated in preparing at least four (4) user instruction notices. **6 pts**

TOTAL **Max pts: 33 pts**
Min pts: TBD

4.4.6.4. Examples of Deliverables Associated with the Category

- (a) Functional EO system
- (b) Integrated or non-integrated electro-optical component
- (c) Updated user manual (addition, modification, correction)
- (d) A report describing:
 - i. Maintenance work done
 - ii. Needs in repairs, modifications and additions of material
 - iii. Results of work validation tests in table and/or graph form

4.4.7. EO COMPUTER SCIENCE RESEARCH TECHNICIAN

4.4.7.1. Examples of Potential Work Associated with the

Category Without limitation, the technician is expected to

- (a) participate in the design of code in hardware description language (VHDL);
- (b) participate in electronic needs analysis to target and propose signal processing solutions;
- (c) participate in the development and testing of digital signal processing models;
- (d) participate in preparing reports.

4.4.7.2. Mandatory Criteria (MC) Associated with the Category

MC1 Training	The proposed resource must hold a diploma in electronics technology OR a post-secondary diploma in science with an Attestation of Collegial Studies in a field of computer science and twenty-four (24) months of work experience in the computer science field in general, therefore not exclusively in the EO field.
MC2 EO Experience	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (according to the level of resource requested in the CAF) of work experience in computer science in the EO field.

4.4.7.3. Examples of Point-Rated Criteria Associated with the Category

PRC1 Experience in VHDL programming associated with high-speed electronics (above 600 MHz)	Max pts: 16 pts
Min pts: n/a	
The proposed resource has less than three (3) months of experience in VHDL programming associated with high-speed electronics.	0 pts
The proposed resource has at least three (3) months of experience in VHDL programming associated with high-speed electronics.	4 pts
The proposed resource has at least six (6) months of experience in VHDL programming associated with high-speed electronics.	8 pts
The proposed resource has at least twelve (12) months of experience in VHDL programming associated with high-speed electronics.	12 pts
The proposed resource has at least twenty-four (24) months of experience in VHDL programming associated with high-speed electronics.	16 pts
PRC2 Experience in adding EO capacity to existing technology not originally used for operating on these signals	Max pts: 6 pts
Min pts: n/a	
The proposed resource has participated in one (1) project involving the addition of one or more EO capabilities to a pre-existing technology that was not originally used for operating on these signals.	2 pts
The proposed resource has participated in at least two (2) projects involving the addition of one or more EO capabilities to a pre-existing technology that was not originally used for operating on these signals.	4 pts

The proposed resource has participated in at least four (4) projects involving the addition of one or more EO capabilities to a pre-existing technology that was not originally used for operating on these signals. **8 pts**

PRC3 Experience with field-programmable gate array (FPGA) peripherals in support of high-speed electronics (minimum 600 MHz)	Max pts: 12 pts
	Min pts: n/a
The proposed resource has less than three (3) months of experience in FPGA peripherals in support of high-speed electronics.	0 pts
The proposed resource has at least three (3) months of experience in FPGA peripherals in support of high-speed electronics.	3 pts
The proposed resource has at least six (6) months of experience in FPGA peripherals in support of high-speed electronics.	6 pts
The proposed resource has at least twelve (12) months of experience in FPGA peripherals in support of high-speed electronics.	9 pts
The proposed resource has at least twenty-four (24) months of experience in FPGA peripherals in support of high-speed electronics.	12 pts
TOTAL	Max pts: 34 pts
	Min pts: TBD

4.4.7.4. Examples of Deliverables Associated with the Category

- (a) Source code (validated VHDL source files)
- (b) A report describing:
 - i. Needs analysis and signal processing solutions
 - ii. Signal processing model
 - iii. Description of the architecture and algorithms implemented
 - iv. Results of functional tests

4.4.8. EO COMPUTER SCIENCE RESEARCH TECHNICIAN – SPECIALIZATION IN NETWORKING

4.4.8.1. Examples of Potential Work Associated with the Category

Without limitation, the technician is expected to

- (a) participate in the integration of multiple sensors in multiple pods and stabilized turrets, which includes but is not limited to laser technologies (Laser Range Finder (LRF), Laser Spot Tracker (LST), Laser Target Designator (LTD), Spotter, Marker);
- (b) integrate communication systems into pods and turrets.

4.4.8.2. Mandatory Criteria (MC) Associated with the Category

MC1 Formation	The proposed resource must hold a diploma in computer science technology – computer network management OR a post-secondary diploma in science with an Attestation of Collegial Studies in a field of networking and twenty-four (24) months of work experience in the networking field in general, therefore not exclusively in the EO field.
MC2 EO experience	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (according to the level of resource requested in the CAF) of work experience in networking in the EO field.

4.4.8.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

PRC1 Experience in network integration for EO systems and associated material involving laser sources	Max pts: 10 pts
	Min pts: n/a
The proposed resource has participated in one (1) project involving the networking of an EO system and associated material involving laser sources.	1 pt
The proposed resource has participated in at least one (1) project involving the networking of more than one EO system and associated material involving laser sources.	4 pts
The proposed resource has participated in at least two (2) projects involving the networking of more than one EO system and associated material involving laser sources.	6 pts
The proposed resource has participated in at least four (4) projects involving the networking of more than one EO system and associated material involving laser sources.	10 pts
PRC2 Experience in the handling (calibration and operation) and maintenance of EO systems during field testing	Max pts: 12 pts
	Min pts: n/a
<ul style="list-style-type: none"> • For the purposes of this criterion, a field test campaign must be at least five (5) days long and include equipment set-up and tear-down. 	
The proposed resource has participated in fewer than two (2) field test campaigns involving the networking of EO systems.	0 pts
The proposed resource has participated in at least two (2) field test campaigns involving the networking of EO systems.	2 pts

The proposed resource has participated in at least two (2) field test campaigns involving the networking of EO systems and laser signal generation. **6 pts**

The proposed resource has participated in at least four (4) field test campaigns involving the networking of EO systems, of which at least two (2) involved laser signal generation. **8 pts**

The proposed resource has participated in at least four (4) field test campaigns involving the networking of EO systems and involving laser signal generation. **12 pts**

PRC3 Experience in preparing reports

Max pts: 4 pts

Min pts: n/a

The proposed resource has participated in the preparation of fewer than two (2) reports on EO system field testing. **0 pts**

The proposed resource has participated in the preparation of at least two (2) reports on EO system field testing. **2 pts**

The proposed resource has participated in the preparation of at least three (3) reports on EO system field testing. **4 pts**

TOTAL

Max pts: 26 pts

Min pts: TBD

4.4.8.4. Examples of Deliverables Associated with the Category

- (a) Source code
- (b) A report describing:
 - i. Analysis of technical problems and solution strategies;
 - ii. Description of investigations conducted, corrective measures and optimization contributed;
 - iii. Experiment results in table/graph form.

4.4.9. EO SPECIALIST PROGRAMMER ANALYST

4.4.9.1. Examples of Potential Work Associated with the

Category Without limitation, the specialist will be expected to

- (a) participate in the conception, design and programming of software or functions for EO image analysis, signature processing and signature database processing;
- (b) participate in the conception, design and programming to allow for the use of data streaming (TCP and UDP) from instruments;
- (c) prepare a user manual.

4.4.9.2. Mandatory Criteria (Mc) Associated with the Category

MC1 Training	The proposed resource must hold a diploma in computer science technology – computer science management OR a diploma in computer science technology and twenty-four (24) months of work experience as a programmer analyst OR a post-secondary studies diploma with an Attestation of Collegial Studies in a field of computer science and twenty-four (24) months of work experience as a programmer analyst in general, therefore not exclusively in the EO field.
MC2 EO experience	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (according to the level of resource requested in the CAF) of work experience as a programmer analyst in the EO field.

4.4.9.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

PRC1 Experience in programming EO system-generated image analysis and signature processing	Max pts: 14 pts
<ul style="list-style-type: none"> • For the purposes of this criterion, the evaluation will deal with the combination of expertise in EO systems image analysis and EO systems spectral signature processing. 	Min pts: n/a
The proposed resource has less than six (6) months of image analysis or three (3) months of signature processing.	0 pts
The proposed resource has at least six (6) months of image analysis and three (3) months of signature processing.	4 pts
The proposed resource has at least twelve (12) months of image analysis and three (3) months of signature processing.	6 pts
The proposed resource has at least twelve (12) months of image analysis and six (6) months of signature processing.	10 pts
The proposed resource has at least twenty-four (24) months of image analysis and twelve (12) months of signature processing.	14 pts
PRC2 Experience in programming for database processing	Max pts: 12 pts
The proposed resource has less than twelve (12) months of experience in programming for database processing.	Min pts: n/a
The proposed resource has less than twelve (12) months of experience in programming for database processing.	0 pts

The proposed resource has at least twelve (12) months of experience in programming for database processing. **2 pts**

The proposed resource has at least twelve (12) months of experience in programming for spectral signature database processing. **4 pts**

The proposed resource has at least twenty-four (24) months of experience in programming for spectral signature database processing. **8 pts**

The proposed resource has at least thirty-six (36) months of experience in programming for the spectral signature database processing. **12 pts**

PRC3 Experience in preparing reports and user manuals **Max pts: 4 pts**
Min pts: n/a

The proposed resource has participated in preparing fewer than two (2) reports and fewer than two (2) user manuals. **0 pts**

The proposed resource has participated in preparing at least two (2) reports and at least two (2) user manuals. **2 pts**

The proposed resource has participated in preparing at least four (4) reports and at least four (4) user manuals. **4 pts**

TOTAL **Max pts: 30 pts**
Min pts: TBD

4.4.9.4. Examples of Deliverables Associated with the Category

- (a) Code in the required language;
- (b) A user manual;
- (c) A report describing:
 - i. The concept implemented;
 - ii. The details of the design.

4.4.10. EO SPECIALIST IN PHYSICS

4.4.10.1. Examples of Potential Work Associated with the Category

Without limitation, the specialist will be expected to

- (a) participate in experiments on long-distance beam propagation in various atmospheric conditions;
- (b) participate in the creation and modification of models for predicting the intensity of optical signals generated by aerosols or materials and induced by incident radiation;
- (c) participate in analyses of experimental data and comparative analyses between experimental data and models' predictions.

4.4.10.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have an undergraduate university degree or higher in physics.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (according to the level of resource requested in the CAF) of work experience in physics in the EO field.

4.4.10.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

PRC1 Experience in long-distance optical signal propagation in various atmospheric conditions	Max pts: 12 pts
• For the purposes of this criterion, for a project to be considered, the resource must have spent a minimum of eighty (80) hours on the described task.	Min pts: n/a
The proposed resource has participated in fewer than two (2) projects involving long-distance optical signal propagation in various atmospheric conditions.	0 pts
The proposed resource has participated in at least two (2) projects involving long-distance optical signal propagation in various atmospheric conditions.	6 pts
The proposed resource has participated in at least three (3) projects involving long-distance optical signal propagation in various atmospheric conditions.	9 pts
The proposed resource has participated in at least four (4) projects involving long-distance optical signal propagation in various atmospheric conditions.	12 pts
PRC2 Experience in designing optical signal intensity prediction models	Max pts: 16 pts
• For the purposes of this criterion, for a project to be considered, the resource must have spent a minimum of eighty (80) hours on the described task.	Min pts: n/a
The proposed resource has participated in designing one (1) optical signal intensity prediction model.	0 pts
The proposed resource has participated in designing at least two (2) atmospheric condition optical signal intensity prediction models.	4 pts
The proposed resource has participated in designing at least two (2) atmospheric condition optical signal intensity prediction models, of which at least one (1) has proven to have a reliability of 90% or higher.	8 pts

The proposed resource has participated in designing at least four (4) atmospheric condition optical signal intensity prediction models, of which at least two (2) have proven to have a reliability of 90% or higher. **12 pts**

The proposed resource has participated in designing at least four (4) atmospheric condition optical signal intensity prediction models which were proven to have a reliability of 90% or higher. **16 pts**

MC3 Experience in analyzing experimental data and preparing reports

Max pts: 8 pts

Min pts: n/a

The proposed resource has participated in the analysis of experimental data from fewer than two (2) test campaigns. **0 pts**

The proposed resource has participated in the analysis of experimental data from at least two (2) test campaigns and has participated in preparing the associated reports. **4 pts**

The proposed resource has participated in the analysis of experimental data from at least three (3) test campaigns and has participated in preparing the associated reports. **6 pts**

The proposed resource has participated in the analysis of experimental data from at least four (4) test campaigns and has participated in preparing the associated reports. **8 pts**

TOTAL

Max pts: 36 pts

Min pts: TBD

4.4.10.4. Examples of Deliverables Associated with the Category

- (a) Functional experimentation set-up;
- (b) Predictive models modified or designed;
- (c) Raw experimental data;
- (d) A report describing:
 - i. Raw experimental data in the form of tables and/or graphs;
 - ii. Analysis of experimental data;
 - iii. Comparative analysis of experimental data versus predictions;
 - iv. Analysis of prediction model performance.

4.4.11. EO SPECIALIST IN PHYSICS – SPECIALIZATION IN OPTICS

4.4.11.1. Examples of Potential Work Associated with the Category

Without limitation, the specialist will be expected to

- (a) participate in the development of plans for tests and in planning field tests to assess the performance of optical components of an EO system working in the infrared range (0.9 to 15 μm);
- (b) participate in forecasting expected results;
- (c) participate in field tests, analysis of the data obtained and comparative analysis between the data obtained and the expected results.

4.4.11.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must hold a university undergraduate degree in physics.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (according to the level of resource requested in the CAF) of work experience in optical physics in the EO field.

4.4.11.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

PRC1 Experience in developing test plans related to the performance of electro-optical (EO) systems	Max pts: 10 pts
Min pts: n/a	
The proposed resource has not participated in developing optical performance test plans for EO systems.	0 pts
The proposed resource has participated in developing a minimum of one (1) optical performance test plan for EO systems.	2 pts
The proposed resource has participated in developing a minimum of one (1) optical performance test plan for EO systems to be conducted in field trials and has participated in trial planning.	4 pts
The proposed resource has participated in developing a minimum of two (2) optical performance test plans for EO systems to be conducted in field trials and has participated in trial planning.	8 pts
The proposed resource has, on his or her own, developed a minimum of two (2) optical performance test plans for EO systems to be conducted in field trials and has participated in trial planning.	10 pts
PRC2 Experience in predicting the expected effects and results of optics in EO systems	Max pts: 20 pts
Min pts: TBD	
<ul style="list-style-type: none"> • For the purpose of this criterion, the different types of optics are: spherical, aspherical and free form. • For the purpose of this criterion, to be considered different, the optics must have non-identical technical specifications. 	
The proposed resource has worked on calculating the expected effects and results of spherical optics in EO systems in the infrared range (0.9 to 15 μm); two	Max 6 pts

(2) points per different type of optics up to a maximum of six (6) points.

The proposed resource has worked on calculating the expected effects and results of aspherical optics in EO systems in infrared range (0.9 to 15 μm); two (2) points per different type of optics up to a maximum of six (6) points.

Max 6 pts

The proposed resource has worked on calculating the expected effects and results of free-form optics in EO systems in the infrared range (0.9 to 15 μm); two (2) points per different type of optics up to a maximum of six (6) points.

Max 6 pts

The proposed resource has worked on calculating the expected effects and results of three (3) different types of optics: two (2) points.

Max 2 pts

TOTAL

Max pts: 30 pts

Min pts: TBD

4.4.11.4. Examples of Deliverables Associated with the Category

- (a) Test plans and field trial planning documents;
- (b) A written statement of expected results, including, but not limited to, the assumptions on which the forecast is based, identification of likely problems and limitations, possible solutions for occurrences, etc.
- (c) A report describing:
 - i. Test plans and field trials planned and conducted;
 - ii. Raw and analyzed experimental results obtained in the form of tables and/or graphs;
 - iii. Comparative analysis of experimental data and expected results.

4.4.12. EO AND ELECTRICAL SPECIALIST

4.4.12.1. Examples of Potential Work Associated with the

Category Without limitation, the specialist is expected to

- (a) participate in the study of power supply management of EO systems on a military platform:
 - i. participate in determining electrical supply needs;
 - ii. participate in determining performance compromises depending on the duty cycle;
 - iii. participate in determining wiring and connector needs;
 - iv. participate in determining the impact of the installation of wires on platform integrity;
 - v. participate in determining armoring needed to protect wiring.

4.4.12.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must hold an undergraduate degree or higher in the electrical field.
MC2	Experience in EO	The proposed resource must have at least at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level required in the CAF) of work experience related to electricity and the EO field.

4.4.12.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

PRC1 Experience in power supply management for armoured military platforms	Max pts: 16 pts
	Min pts: n/a
<ul style="list-style-type: none"> • For the purpose of this criterion, different units of the same platform type or model are not considered different armoured military platforms (e.g., two separate VBL IIIs are not considered different armoured military platforms). 	
The proposed resource has participated in the installation or maintenance of electrical systems on one (1) armoured military platform.	2 pts
The proposed resource has participated in the installation or maintenance of electrical systems on two (2) different armoured military platforms.	4 pts
The proposed resource has participated in the design of electrical systems on one (1) armoured military platform.	6 pts
The proposed resource has participated in the design of electrical systems and their installation on one (1) armoured military platform.	8 pts
The proposed resource has participated in the design of electrical systems on two (2) different armoured military platforms.	12 pts
The proposed resource has participated in the design of electrical systems and their installation on two (2) different armoured military platforms.	16 pts
PRC2 Experience in electrical supply management for EO systems	Max pts: 12 pts
	Min pts: n/a
The proposed resource has less than three (3) months of experience related to electrical supply management of at least one (1) EO system.	0 pts

The proposed resource has a minimum of three (3) months of experience related to electrical supply management of at least one (1) EO system. **2 pts**

The proposed resource has a minimum of six (6) months of experience related to electrical supply management for at least one (1) EO system. **4 pts**

The proposed resource has a minimum of six (6) months of experience related to electrical supply management for at least two (2) different EO systems (for a minimum total of twelve (12) months). **8 pts**

The proposed resource has a minimum of six (6) months of experience related to electrical supply management for at least three (3) different EO systems (for a minimum total of eighteen (18) months). **12 pts**

TOTAL	Max pts: 28 pts
	Min pts: TBD

4.4.12.4. Examples of Deliverables Associated with the Category

- (a) A report describing:
 - i. Technical issues and strategies for solutions;
 - ii. Methodology used;
 - iii. Experimental results obtained in the form of tables and/or graphs;
 - iv. Data analysis;
 - v. Recommendations for wires and connectors.

4.4.13. SPECIALIST IN EO AND DATA PROCESSING

4.4.13.1. Examples of Potential Work Associated with the Category

Without limitation, the specialist is expected to

- (a) participate in translating operational requirements into technical requirements;
- (b) participate in the design, integration and validation of control firmware.

4.4.13.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have an undergraduate degree or higher in the field of computer science.
MC2	Experience in EO	The proposed resource must have least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level required in the CAF) of work experience in computer science related to EO.

4.4.13.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

PRC1 Experience in translating operational requirements into technical requirements	Max pts: 10 pts
	Min pts: n/a

The proposed resource has participated in projects where he or she was involved in developing technical requirements based on the operational requirements of a user other than an employer at the time of his or her participation.

Max 10 pts

One (1) point per project up to a maximum of ten (10) points

PRC2 Experience in the processing and analysis of digital video images	Max pts: 12 pts
	Min pts: n/a

The proposed resource has participated in fewer than two (2) projects where he or she was involved in developing digital video image processing and analysis software for EO systems.

0 pts

The proposed resource has participated in a minimum of two (2) projects where he or she was involved in developing digital video image processing and analysis software for EO systems.

3 pts

The proposed resource has participated in a minimum of four (4) projects where he or she was involved in developing digital video image processing and analysis software for EO systems.

6 pts

The proposed resource has participated in a minimum of four (4) projects where he or she was involved in developing digital video image processing and analysis software for EO systems, at least one of which also related to image fusion software development.

9 pts

The proposed resource has participated in a minimum of five (5) projects where he or she was involved in developing digital video image processing and analysis software for EO systems, at least two (2) of which also related to software development for image fusion.

12 pts

PRC3 Experience in the development of performance metrics for algorithms for video image processing and analysis	Max pts: 8 pts
	Min pts: n/a
The proposed resource has not developed any sets of performance metrics for processing algorithms and video image analysis.	0 pts
The proposed resource has developed and implemented one (1) set of performance metrics for processing algorithms and video image analysis.	2 pts
The proposed resource has developed and implemented two (2) sets of performance metrics for processing algorithms and video image analysis.	4 pts
The proposed resource has developed and implemented three (3) sets of performance metrics for processing algorithms and video image analysis.	6 pts
The proposed resource has developed and implemented four (4) sets of performance metrics for processing algorithms and video image analysis.	8 pts
PRC4 Experience in the implementation of video capture algorithms on FPGA	Max pts: 5 pts
	Min pts: n/a
The proposed resource has not implemented any video capture algorithms on FPGA.	0 pts
The proposed resource has implemented one (1) video capture algorithm on FPGA.	1 pt
The proposed resource has implemented one (1) video capture algorithm on FPGA, and the result is at a minimum level of TRL 4.	2 pts
The proposed resource has implemented one (1) video capture algorithm on FPGA, and the result is at a minimum level of TRL 5.	3 pts
The proposed resource has implemented one (1) video capture algorithm on FPGA, and the result is at a minimum level of TRL 6.	4 pts
The proposed resource has implemented one (1) video capture algorithm on FPGA, and the result is at a minimum level of TRL 7.	5 pts
TOTAL	Max pts: 35 pts
	Min pts: TBD

4.4.13.4. Examples of Deliverables Associated with the Category

- (a) Software: algorithms, metrics and source codes;
- (b) FPGA components (Field Programmable Gate Array matrix);
- (c) A report describing:
 - i. Installation procedures of the various software developed;
 - ii. Raw and processed images;
 - iii. Analysis of captured images;
 - iv. Analysis of the validation of algorithms;
 - v. Underlying scientific reasons for the choice of metrics developed.

4.4.14. EO AND COMPUTER SPECIALIST – SPECIALIZATION IN NETWORKING AND SYSTEMS

4.4.14.1. Examples of Potential Work Associated with the Category

Without limitation, the specialist is expected to

- (a) participate in the analysis and validation of operational requirements with regard to pods and networking for the addition of cameras and antennas of the communications and observation systems on the C-130J platform;
- (b) participate in a state-of-the-art study on systems meeting previously validated requirements;
- (c) participate in the design of pod and networking solutions based on emerging technologies and focused on operability.

4.4.14.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have an undergraduate degree (or higher) in the computer science field.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level required in the CAF) of work experience related to computer systems and systems in the EO field.

4.4.14.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

		Max pts: 12 pts
PRC1 Experience in the integration of systems into airborne platforms		Min pts: n/a
<ul style="list-style-type: none"> • For the purpose of this criterion, the system includes the pod and the communications or observation component and integration involves networking between the system and the appropriate onboard devices. 		
The proposed resource has not participated in any integration of communications or observation systems into an airborne platform.		0 pts
The proposed resource has participated in the integration of a minimum of one (1) communications or observation system into an airborne platform.		2 pts
The proposed resource has participated in the integration of a minimum of one (1) communications or observation system into the C-130J platform.		4 pts
The proposed resource has participated in the integration of a minimum of two (2) communications or observation systems into an airborne platform.		6 pts
The proposed resource has participated in the integration of a minimum of two (2) communications or observation systems into the C-130J platform.		8 pts
The proposed resource has participated in the integration of a minimum of two (2) systems, including one communication system and one observation system into an airborne platform.		10 pts
The proposed resource has participated in the integration of a minimum of two (2) systems, including one communications system and one observation system into the C-130J platform.		12 pts
PRC2 Experience in the design of communication or observation systems for airborne platforms		Max pts: 16 pts
		Min pts: n/a

- For the purpose of this criterion, the term “system” includes the pod and the networking between the communications and observation systems and the related onboard devices.

The proposed resource has not participated in designing a system.	0 pts
The proposed resource has participated in designing one (1) system.	2 pts
The proposed resource has participated in designing one (1) communications system and one (1) observation system.	4 pts
The proposed resource has participated in designing one (1) system that was integrated into an airborne platform.	6 pts
The proposed resource participated in designing one (1) communication system and one (1) observation system that were integrated into airborne platforms.	8 pts
The proposed resource participated in designing one (1) system that was integrated into an airborne platform and that was or is currently in operation.	12 pts
The proposed resource participated in designing one (1) communications system and one (1) observation system that were integrated into airborne platforms and were or currently are in operation.	16 pts

PRC3 Experience in drafting reports and in conducting state-of-the-art studies	Max pts: 5 pts
	Min pts: n/a

The proposed resource has participated in the drafting of fewer than two (2) technical and scientific reports.	0 pts
The proposed resource has participated in the drafting of a minimum of two (2) technical and scientific reports.	2 pts
The proposed resource has participated in the drafting of a minimum of three (3) technical and scientific reports.	3 pts
The proposed resource has participated in the drafting of a minimum of two (2) technical and scientific reports and in the conduct of a minimum of one (1) state-of-the-art study on networking.	4 pts
The proposed resource participated in the drafting of a minimum of three (3) technical and scientific reports and in the conduct of a minimum of one (1) state-of-the-art study on networking.	5 pts

TOTAL	Max pts: 33 pts
	Min pts: TBD

4.4.14.4. Examples of Deliverables Associated with the Category

- (a) A report describing:
 - i. Technical requirements meeting operational requirements;
 - ii. State-of-the art study;
 - iii. Diagrams of concepts developed and the basis supporting the selected solutions.

4.4.15. EO AND MECHANICS SPECIALIST

4.4.15.1. Examples of Potential Work Associated with the Category

Without limitation, the specialist is expected to

- (a) participate in the design and manufacture of a universal stabilizing platform for the following LIDAR systems: 3D Scanning LIDAR, Active Imaging LIDAR, Atmospheric LIDAR and Fluorescent LIDAR for implementation on a Griffon-type airborne platform;
- (b) participate in the installation of the stabilizing platform and of various LIDAR systems on the Griffon-type airborne platform and in the interfacing of various components between them and with the Griffon navigation system;
- (c) participate in developing test plans and planning field tests to evaluate the performance of the stabilizing platform with each of the various LIDAR systems;
- (d) participate in field tests and in the analysis of data gathered.

4.4.15.2. Mandatory Technical Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have an undergraduate degree (or higher) in the mechanics field.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level required in the CAF) of work experience related to mechanics in the EO field.

4.4.15.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

		Max pts: 10 pts
PRC1 Experience in characterizing airborne platform		Min pts: n/a
<ul style="list-style-type: none"> • For the purpose of this criterion, for a project to be considered, the resource must have worked for a minimum of forty (40) hours on the described task. 		
The proposed resource has not participated in any characterization of an airborne platform.		0 pts
The proposed resource has participated in the characterization of one (1) airborne platform.		3 pts
The proposed resource has participated in the characterization of a Griffon platform.		5 pts
The proposed resource has participated in the characterization of two (2) airborne platforms.		8 pts
The proposed resource has participated in a characterization of a Griffon platform and one (1) additional airborne platform.		10 pts
		Max pts: 10 pts
PRC2 Experience in the integration of stabilizing platforms on airborne platforms		Min pts: n/a
<ul style="list-style-type: none"> • For the purpose of this criterion, for a project to be considered, the resource must have worked for a minimum of twenty (20) hours on the described task. 		
The proposed resource has not participated in any integration of stabilizing		0 pts

platforms on an airborne platform.

The proposed resource has participated in the integration of a minimum of one (1) stabilizing platform and tools to be supported on an airborne platform. **3 pts**

The proposed resource has participated in the integration of a minimum of one (1) stabilizing platform and tools to be supported on a Griffon platform. **5 pts**

The proposed resource has participated in the integration of a minimum of two (2) different stabilizing platforms and tools to be supported on a minimum of one (1) airborne platform. **8 pts**

The proposed resource has participated in the integration of a minimum of two (2) different stabilizing platforms and tools to be supported on a minimum of one (1) Griffon platform. **10 pts**

	Max pts: 12 pts
PRC3 Experience with field tests for airborne platforms	Min pts: n/a

The proposed resource has participated in fewer than two (2) field trial campaigns involving stabilization systems on airborne platforms. **0 pts**

The proposed resource has participated in a minimum of two (2) field trial campaigns involving stabilizing systems on airborne platforms. **2 pts**

The proposed resource has participated in a minimum of two (2) field trial campaigns involving stabilization systems on airborne platforms and a minimum of two (2) types of LIDAR systems. **6 pts**

The proposed resource has participated in a minimum of four (4) field trial campaigns involving stabilization systems on airborne platforms and a minimum of two (2) types of LIDAR systems. **8 pts**

The proposed resource has participated in a minimum of four (4) field trial campaigns involving stabilization systems on airborne platforms, including a minimum of one (1) Griffon-type and a minimum of two (2) LIDAR-type systems. **12 pts**

TOTAL	Max pts: 32 pts
	Min pts: TBD

4.4.15.4. Examples of Deliverables Associated with the Category

- (a) 3D CAD stabilizing platform;
- (b) Stabilizing platform;
- (c) A report describing:
 - i. Plan of field trials;
 - ii. Characterization of the Griffon platform leading to the design of the stabilizing platform;
 - iii. Diagram of connections between the stabilizing platform, various LIDAR systems and Griffon platform;
 - iv. Raw data and analysis of field trials.

4.4.16. EO AND EARTH SCIENCE SPECIALIST

4.4.16.1. Examples of Potential Work Associated with the Category

Without limitation, the specialist is expected to

- (a) participate in the development and implementation of detection methods and algorithms;
- (b) participate in the simulation of sensor data;
- (c) participate in the atmospheric correction of remote sensing images;
- (d) participate in the integration and fusion of remote sensing images;
- (e) participate in the multivariate analysis of spectral signatures.

4.4.16.2. Mandatory Technical Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have an undergraduate university degree or higher in an earth science field (e.g., geography, geomatics, earth sciences, etc.).
MC2	Experience in EO	The proposed resource must have as a minimum twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level required in the CAF) of work experience in geomatics or remote sensing (may be combined) in the EO field.

4.4.16.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

		Max pts: 10 pts
PRC1 Experience in the development of remote sensing algorithms		Min pts: n/a
The proposed resource has developed fewer than two (2) detection algorithms.		0 pts
The proposed resource has developed at a minimum two (2) detection algorithms.		2 pts
The proposed resource has developed at a minimum four (4) detection algorithms.		4 pts
The proposed resource has developed at a minimum six (6) detection algorithms.		6 pts
The proposed resource has developed at a minimum eight (8) detection algorithms.		8 pts
The proposed resource has developed at a minimum ten (10) detection algorithms.		10 pts
		Max pts: 12 pts
PRC2 Experience in image fusion		Min pts: n/a
The proposed resource has less than six (6) months of experience in image fusion.		0 pts
The proposed resource has a minimum of six (6) months of experience in image fusion.		3 pts
The proposed resource has a minimum of twelve (12) months of experience in image fusion.		6 pts
The proposed resource has a minimum of twenty-four (24) months of experience in image fusion.		9 pts
The proposed resource has a minimum of thirty-six (36) months of experience in		12 pts

image fusion.

PRC3 Experience in multivariate analysis of spectral signatures (e.g., PSL methods).	Max pts: 12 pts
	Min pts: n/a
The proposed resource has less than three (3) months of experience in multivariate analysis of spectral signatures.	0 pts
The proposed resource has a minimum of three (3) months of experience in multivariate analysis of spectral signatures.	3 pts
The proposed resource has a minimum of six (6) months of experience in multivariate analysis of spectral signatures.	6 pts
The proposed resource has a minimum of twelve (12) months of experience in multivariate analyses of spectral signatures.	9 pts
The proposed resource has a minimum of twenty-four (24) months of experience in multivariate analyses of spectral signatures.	12 pts
PRC3 Report drafting experience	Max pts: 6 pts
	Min pts: n/a
<ul style="list-style-type: none"> • For the purpose of this criterion: <ul style="list-style-type: none"> • The term “report” is defined as scientific or technical writing related to EO systems; • The term “lead writer” means an author who has written more than 65% of the content of a report. 	
The proposed resource has participated in the drafting of fewer than two (2) reports.	0 pts
The proposed resource has participated in the drafting of a minimum of two (2) reports.	2 pts
The proposed resource has participated in the drafting of a minimum of three (3) reports and was lead writer of a minimum of one (1) of these reports.	4 pts
The proposed resource has participated in the drafting of a minimum of four (4) reports and was the lead writer of a minimum of two (2) of these reports.	6 pts
TOTAL	Max pts: 40 pts
	Min pts: TBD

4.4.16.4. Examples of Deliverables Associated with the Category

- (a) Source codes of algorithms;
- (b) Analysis results (images, signatures);
- (c) A report describing:
 - i. State of the art of existing algorithms;
 - ii. Proposed methodology;
 - iii. Results obtained;
 - iv. Discussions of results and recommendations.

4.4.17. EO AND MATHEMATICS SPECIALIST

4.4.17.1.Examples of Potential Work Associated with the Category

Without limitation, the specialist is expected to

- (a) Participate in the development, modification and testing of algorithms related to image enhancement processing of EO systems in the visible and infrared fields for the purpose of target detection;
- (b) Participate in the development, modification and testing of algorithms related to image fusion of EO systems from various spectral bands in the visible and infrared fields;
- (c) Participate in the analysis of the relevance of image enhancement processing algorithms of EO systems for the identification of targets under operational conditions.

4.4.17.2.Mandatory Criteria (MC) Associated with the Category

MC1 Training	The proposed resource must hold an undergraduate university degree or higher in the mathematics field.
MC2 EO experience	The proposed resource must have a minimum of twelve (12), thirty-six (36) or one hundred and twenty (120) months of work experience (depending on the resource level required in the CAF) related to mathematics in the EO field.

4.4.17.3.Examples of Point-Rated Criteria (PRC) Associated with the Category

	Pts max: 16 pts
PRC1 Experience related to image enhancement in image processing algorithms	Pts min: n/a
<ul style="list-style-type: none"> • For the purpose of this criterion, the resource must have performed the described task for a minimum of sixty (60) hours on for a project to be considered. • For the purpose of this criterion, the term “utilization” includes modification and development. • For the purpose of this criterion, the term “modification” includes development. 	
The proposed resource has participated in fewer than two (2) projects involving the use of algorithms related to image enhancement processing in EO systems for the purpose of target detection.	0 pts
The proposed resource has participated in a minimum of two (2) projects involving the use of algorithms related to image enhancement processing in EO systems for the purpose of target detection.	2 pts
The proposed resource has participated in a minimum of four (4) projects involving the use of algorithms related to image enhancement processing in EO systems in the visible and infrared fields for the purpose of target detection.	4 pts
The proposed resource has participated in a minimum of two (2) projects involving the modification of algorithms related to image enhancement processing in EO systems for the purpose of target detection.	6 pts
The proposed resource has participated in a minimum of two (2) projects involving the development of algorithms related to image enhancement processing in EO systems for the purpose of target detection.	8 pts
The proposed resource has participated in a minimum of four (4) projects involving the modification of algorithms related to image enhancement processing in EO	12 pts

systems for the purpose of target detection.

The proposed resource participated in a minimum of four projects involving the development of algorithms related to image enhancement processing in EO systems for the purpose of target detection.

16 pts

PRC2 Experience relating to algorithms for the fusion of images from EO systems

Max pts: 8 pts

Min pts: n/a

- For the purposes of this criterion, the resource must have performed the described task for a minimum of sixty (60) hours for a project to be considered.
- For the purposes of this criterion, the term “use” includes both modification and development.
- For the purposes of this criterion, the term “modification” includes development.

The proposed resource has participated in fewer than two (2) previous projects where he or she was involved in the use of algorithms relating to the fusion of images from EO systems and different spectral bands for target detection purposes.

0 pts

The proposed resource has participated in a minimum of two (2) projects where he or she was involved in the use of algorithms relating to the fusion of images from EO systems and different spectral bands for target detection purposes.

4 pts

The proposed resource has participated in a minimum of two (2) projects where he or she was involved in the modification of algorithms relating to the fusion of images from EO systems and different spectral bands for target detection purposes.

6 pts

The proposed resource has participated in a minimum of two (2) projects where he or she was involved in the development of algorithms relating to the fusion of images from EO systems and different spectral bands for target detection purposes.

8 pts

PRC3 Experience relating to metrics for analyzing algorithms for processing and analyzing EO system imagery

Max pts: 12 pts

Min pts: n/a

- For the purposes of this criterion, the resource must have performed the described task for a minimum of thirty (30) hours for a project to be considered.

PRC3a Project involving the proposed resource in the use, modification or development of metrics for analyzing the suitability of algorithms for processing EO system imagery in operational conditions, two (2) points per project, to a maximum of eight (8) points

Max 8 pts

PRC3b For each project having contributed points under PRC3a, one (1) point per project relating to target detection, to a maximum of four (4) points

Max 4 pts

TOTAL

Max pts: 36 pts

Min pts: TBD

4.4.17.4. Examples of Deliverables Associated with the Category

- (a) The modified or developed algorithms;
- (b) A report describing:
 - i. The work methodology used;
 - ii. A comprehensive description of changes made to algorithms or of the algorithms developed and their observed performance;
 - iii. An analysis of the suitability of the algorithms in operational situations;
 - iv. All raw, processed and fused data, and any analysis that may have been performed;
 - v. A list of algorithm challenges relating to image enhancement and fusion in operational situations that should be addressed in future work.

4.4.18. EO RESEARCHER (PHYSICS)

4.4.18.1. Examples of Potential Work Associated with the Category

Without limitation, the researcher is expected to

- (a) analyze LIDAR system data. This includes but is not limited to taking measurements, analyzing measurements and writing reports;
- (b) model the propagation of lasers and LIDAR imagery in turbid environments. This includes but is not limited to the Monte Carlo simulation, analytical model development, measurement analysis, comparison with models and the writing of reports.

4.4.18.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have a graduate degree or higher in physics.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level requested in the CAF) of work experience in physics in the EO field.

4.4.18.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

		Max pts: 10 pts
PRC1 Experience relating to LIDAR data analysis		Min pts: n/a
The proposed resource has fewer than six (6) months of experience in LIDAR data analysis.		0 pts
The proposed resource has at least six (6) months of experience in LIDAR data analysis.		2 pts
The proposed resource has at least twelve (12) months of experience in LIDAR data analysis.		4 pts
The proposed resource has at least twenty (24) months of experience in LIDAR data analysis.		6 pts
The proposed resource has at least thirty-six (36) months of experience in LIDAR data analysis.		8 pts
The proposed resource has at least forty-eight (48) months of experience in LIDAR data analysis.		10 pts
		Max pts: 15 pts
PRC2 Experience in modelling the propagation of lasers and LIDAR imagery in turbid environments		Min pts: TBD
<ul style="list-style-type: none"> • For the purposes of this criterion, the various areas of expertise that will be considered are the following: <ul style="list-style-type: none"> (a) Monte Carlo simulation (b) LIDAR data inversion (c) Atmospheric dispersion modelling (d) Effect of turbidity on 3D LIDAR imagery (e) Effect of flight parameters on 3D LIDAR imagery 		
The proposed resource has participated in various projects where he or she was involved in the Monte Carlo simulation: one (1) point per project, to a maximum of		Max 3 pts

three (3) points.

The proposed resource has participated in various projects where he or she was involved in LIDAR data inversion: one (1) point per project, to a maximum of three (3) points. **Max 3 pts**

The proposed resource has participated in various projects where he or she was involved in atmospheric dispersion modelling: one (1) point per project, to a maximum of three (3) points. **Max 3 pts**

The proposed resource has participated in various projects where he or she was involved in the effect of turbidity on 3D LIDAR imagery: one (1) point per project, to a maximum of three (3) points. **Max 3 pts**

The proposed resource has participated in various projects where he or she was involved in the effect of flight parameters on 3D LIDAR imagery: one (1) point per project, to a maximum of three (3) points. **Max 3 pts**

PRC3 Experience in writing reports **Max pts: 6 pts**

Min pts: n/a

- For the purposes of this criterion:
 - the term “report” is defined as a scientific or technical document on the subject of EO systems;
 - the term “lead writer” means an author who has written more than 65% of a report’s content.

The proposed resource has participated in the writing of fewer than two (2) reports. **0 pts**

The proposed resource has participated in the writing of at least two (2) reports. **2 pts**

The proposed resource has participated in the writing of at least three (3) reports and was the lead writer of at least one (1) of those reports. **4 pts**

The proposed resource has participated in the writing of at least four (4) reports and was the lead writer of at least two (2) of those reports. **6 pts**

TOTAL **Max pts: 31 pts**

Min pts: TBD

4.4.18.4. Examples of Deliverables Associated with the Category

- (a) The designed models and simulations;
- (b) Reports describing:
 - i. The methodology and models used;
 - ii. The results of the analysis of the experimental results obtained in table and/or graph form;
 - iii. An analysis of the data and recommendations.

4.4.19. EO RESEARCHER (PHYSICS) – SPECIALIZATION IN OPTICS

4.4.19.1. Examples of Potential Work Associated with the Category

Without limitation, the researcher is expected to

- (a) participate in the development and testing of algorithms for modelling atmospheric propagation of laser signals;
- (b) participate in the development and testing of algorithms for modelling diffuse and specular reflection of laser signals;
- (c) participate in the development and testing of acquisition routines for single or multiple laser sources.

4.4.19.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have a graduate degree or higher in physics.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level requested in the CAF) of work experience in optical physics in the EO field.

4.4.19.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

		Max pts: 10 pts
PRC1 Experience relating to atmospheric propagation of laser signals		Min pts: n/a
The proposed resource has participated in fewer than two (2) projects where he or she was involved in modelling atmospheric propagation of laser signals.		0 pts
The proposed resource has participated in two (2) projects where he or she was involved in modelling atmospheric propagation of laser signals.		2 pts
The proposed resource has participated in more than two (2) projects where he or she was involved in modelling atmospheric propagation of laser signals.		4 pts
The proposed resource has participated in two (2) projects where he or she was involved in developing algorithms for modelling atmospheric propagation of laser signals.		6 pts
The proposed resource has participated in more than two (2) projects where he or she was involved in developing algorithms for modelling atmospheric propagation of laser signals.		8 pts
The proposed resource has participated in more than two (2) projects where he or she was involved in developing algorithms for modelling atmospheric propagation of laser signals and has authored or co-authored a peer-reviewed publication on atmospheric propagation of laser signals.		10 pts
		Max pts: 20 pts
PRC2 Experience relating to diffuse and specular reflection of laser signals		Min pts: n/a
The proposed resource has participated in fewer than two (2) projects where he or she was involved in modelling diffuse and specular reflection of laser signals.		0 pts

The proposed resource has participated in two (2) projects where he or she was involved in modelling diffuse and specular reflection of laser signals. **4 pts**

The proposed resource has participated in more than two (2) projects where he or she was involved in modelling diffuse and specular reflection of laser signals. **8 pts**

The proposed resource has participated in two (2) projects where he or she was involved in developing algorithms for diffuse and specular reflection of laser signals. **12 pts**

The proposed resource has participated in more than two (2) projects where he or she was involved in developing algorithms for diffuse and specular reflection of laser signals. **16 pts**

The proposed resource has participated in more than two (2) projects where he or she was involved in developing algorithms for modelling diffuse and specular reflection of laser signals and has authored or co-authored a peer-reviewed publication on diffuse and specular reflection of laser signals. **20 pts**

PRC3 Experience relating to acquisition routines for single or multiple laser sources

Max pts: 15 pts

Min pts: n/a

The proposed resource has participated in fewer than two (2) projects where he or she was involved in developing acquisition routines for single or multiple laser sources. **0 pts**

The proposed resource has participated in at least two (2) projects where he or she was involved in developing acquisition routines for single or multiple laser sources. **3 pts**

The proposed resource has participated in at least two (2) projects where he or she was involved in developing acquisition routines for multiple laser sources. **6 pts**

The proposed resource has participated in at least four (4) projects where he or she was involved in developing acquisition routines for laser sources, at least two (2) of which involved multiple laser sources. **9 pts**

The proposed resource has participated in at least six (6) projects where he or she was involved in developing acquisition routines for laser sources, at least four (4) of which involved multiple laser sources. **12 pts**

The proposed resource has participated in at least eight (8) projects where he or she was involved in developing acquisition routines for laser sources, at least six (6) of which involved multiple laser sources. **15 pts**

PRC4 Experience in writing reports

Max pts: 20 pts

Min pts: TBD

- **For the purposes of point-rated sub-criteria PRC4a, PRC4b and PRC4c:**
 - the term “report” is defined as a scientific or technical document on a subject in the field of EO;
 - the term “lead writer” means an author who has written more than 65% of a report’s content.

PRC4a, The proposed resource has participated in the writing of reports, two (2) points per selected report, to a maximum of ten (10) points **Max 10 pts**

PRC4b, For the reports selected under PRC4a, one (1) point per report of which the proposed resource was the lead writer, to a maximum of five (5) points

Max 5 pts

PRC4c, For the reports selected under PRC4a, one (1) point per report of which the main subject is laser/atmosphere interaction phenomena, to a maximum of five (5) points

Max 5 pts

TOTAL

Max pts: 65 pts

Min pts: TBD

4.4.19.4. Examples of Deliverables Associated with the Category

- (a) The algorithms and routines developed;
- (b) A report describing:
 - i. The algorithms and routines developed;
 - ii. The experimental results obtained in the form of tables and/or graphs;
 - iii. In-depth analyses of the data obtained.

4.4.20. EO RESEARCHER (PHYSICS) – SPECIALIZATION IN RADIO

4.4.20.1. Examples of Potential Work Associated with the Category

Without limitation, the researcher is expected to

- (a) participate in a study on the state of the art in short-range, high-speed (40 or more Gbps) wireless communications (e.g.: Laser or 60 GHz);
- (b) participate in a feasibility study for the implementation of a WAMI camera pod (Wide Area Motion Imagery; matrix of cameras) for the real-time wireless transfer of collected data to the cargo space of a C-130J. The study must also address transfer security (e.g. through encryption or blocking emanations) to guarantee the inviolability of the data;
- (c) participate in the designing, fabricating and testing of a laboratory prototype for secure, high-speed wireless communication.

4.4.20.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have a graduate degree or higher in physics.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level requested in the CAF) work experience in radio frequency physics in the EO field.

4.4.20.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

PRC1 Experience relating to high-speed (40 or more Gbps) wireless communication systems	Max pts: 20 pts
<ul style="list-style-type: none"> • For the purposes of sub-criteria PRC1a and PRC1b, for a project to be considered, the resource must have performed the described tasks for a minimum of one hundred and twenty (120) hours and have participated in each of the described tasks (“tested or operated” is considered a single task). • For the purposes of this criterion, a single project may be awarded points under only one of sub-criteria PRC1a and PRC1b and under criterion PRC1c. 	Min pts: n/a
PRC1a The resource person has designed, installed and tested or operated a high-speed communication system, one (1) point per project, to a maximum of five (5) points	Max 5 pts
PRC1b The proposed resource has designed, installed and tested or operated a high-speed laser communication system, two (2) points per project, to a maximum of ten (10) points	Max 10 pts
PRC1c For the projects selected in PRC1a and PRC1b, for those where communication speeds reached or surpassed 120 Gbps, one (1) point per project, to a maximum of five (5) points	Max 5 pts
PRC2 Experience relating to secure wireless communication systems	Max pts: 15 pts
<ul style="list-style-type: none"> • For the purposes of this criterion, for a project to be considered, the proposed resource must have performed the described task for a minimum of sixty (60) hours. 	Min pts: TBD
The proposed resource has participated in the design of secure wireless communication systems, two (2) points per project, to a maximum of ten (10)	Max 10 pts

points.

The proposed resource has participated in the modification of secure wireless communications systems at level TRL 7 or higher, one (1) point per project, to a maximum of five (5) points.

Max 5 pts

The proposed resource has participated in security trials of the wireless communications in real time and at high speed (40 Gbps), in the laboratory or in the field, and has analyzed the results obtained, one (1) point per project, to a maximum of five (5) points.

Max 5 pts

TOTAL

Max pts: 35 pts

Min pts: TBD

4.4.20.4. Examples of Deliverables Associated with the Category

- (a) A study of the state of the art
- (b) A feasibility study
- (c) A working prototype
- (d) A report describing:
 - i. The conclusions of the study of the state of the art
 - ii. The conclusions of the feasibility study and their basis
 - iii. Diagrams of the prototype
 - iv. The trial data and their analysis

4.4.21. EO RESEARCHER (COMPUTER SCIENCE)

4.4.21.1. Examples of Potential Work Associated with the Category

Without limitation, the researcher is expected to

- (a) participate in the development, implementation and validation of algorithms for capturing digital video imagery;
- (b) participate in the development, implementation and validation of algorithms for processing and analyzing digital video imagery;
- (c) participate in the development and implementation of performance metrics for algorithms for processing and analyzing digital video imagery;
- (d) participate in the implementation of algorithms for capturing digital video imagery on Field Programmable Gate Arrays (FPGA).

4.4.21.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have a graduate degree or higher in a computer science specialization.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level requested in the CAF) of work experience in computer science in the EO field.

4.4.21.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

		Max pts: 10 pts
PRC1 Experience relating to algorithms for capturing digital video imagery		Min pts: n/a
The proposed resource has participated in fewer than two (2) projects where he or she was involved in the development of control software and software for capturing video imagery from EO systems.		0 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the development of control software and software for capturing video imagery from EO systems, with one (1) project involving analogue imagery and one (1) project involving digital imagery.		2 pts
The proposed resource has participated in at least three (3) projects where he or she was involved in the development of control software and software for capturing video imagery from EO systems, with one (1) project involving analogue imagery and two (2) projects involving digital imagery.		4 pts
The proposed resource has participated in at least four (4) projects where he or she was involved in the development of control software and software for capturing video imagery from EO systems, with one (1) project involving analogue imagery and three (3) projects involving digital imagery.		6 pts
The proposed resource has participated in at least five (5) projects where he or she was involved in the development of control software and software for capturing video imagery from EO systems, with one (1) project involving analogue imagery and four (4) projects involving digital imagery.		8 pts
The proposed resource has participated in at least six (6) projects where he or she was involved in the development of control software and software for capturing video imagery from EO systems, with one (1) project involving analogue		10 pts

imagery and five (5) projects involving digital imagery.

<p>PRC2 Experience in processing and analyzing digital video imagery</p>	<p>Max pts: 12 pts Min pts: n/a</p>
<p>The proposed resource has participated in fewer than two (2) projects where he or she was involved in the development of software for processing digital video imagery from EO systems.</p>	<p>0 pts</p>
<p>The proposed resource has participated in at least two (2) projects where he or she was involved in the development of software for processing digital video imagery from EO systems.</p>	<p>3 pts</p>
<p>The proposed resource has participated in at least four (4) projects where he or she was involved in the development of software for processing digital video imagery from EO systems.</p>	<p>6 pts</p>
<p>The proposed resource has participated in at least four (4) projects where he or she was involved in the development of software for processing digital video imagery from EO systems, at least one (1) of which also covered the development of image fusion software.</p>	<p>9 pts</p>
<p>The proposed resource has participated in at least five (5) projects where he or she was involved in the development of software for processing digital video imagery from EO systems, at least two (2) of which also covered the development of image fusion software.</p>	<p>12 pts</p>
<p>PRC3 Experience in developing performance metrics for algorithms for processing and analyzing video imagery</p>	<p>Max pts: 8 pts Min pts: n/a</p>
<p>The proposed resource has not developed any performance metrics for algorithms for processing and analyzing video imagery.</p>	<p>0 pts</p>
<p>The proposed resource has developed and implemented one (1) set of performance metrics for algorithms for processing and analyzing video imagery.</p>	<p>2 pts</p>
<p>The proposed resource has developed and implemented two (2) sets of performance metrics for algorithms for processing and analyzing video imagery.</p>	<p>4 pts</p>
<p>The proposed resource has developed and implemented three (3) sets of performance metrics for algorithms for processing and analyzing video imagery.</p>	<p>6 pts</p>
<p>The proposed resource has developed and implemented four (4) sets of performance metrics for algorithms for processing and analyzing video imagery.</p>	<p>8 pts</p>
<p>PRC4 Experience in implementing FPGA video capture algorithms</p>	<p>Max pts: 5 pts Min pts: n/a</p>
<p>The proposed resource has not implemented any FPGA video capture algorithms.</p>	<p>0 pts</p>

The proposed resource has implemented one (1) FPGA video capture algorithm.	1 pt
The proposed resource has implemented one (1) FPGA video capture algorithm, and the result is at level TRL 4 or higher.	2 pts
The proposed resource has implemented one (1) FPGA video capture algorithm, and the result is at level TRL 5 or higher.	3 pts
The proposed resource has implemented one (1) FPGA video capture algorithm, and the result is at level TRL 6 or higher.	4 pts
The proposed resource has implemented one (1) FPGA video capture algorithm and, the result is at level TRL 7 or higher.	5 pts

TOTAL	Max pts: 35 pts
	Min pts: TBD

4.4.21.4. Examples of Deliverables Associated with the Category

- (a) Software: algorithms, metrics and source code
- (b) FPGA components
- (c) A report describing:
 - i. The installation procedures for the various pieces of software developed
 - ii. The raw and processed images
 - iii. The analysis of the captured imagery
 - iv. The analysis of the validation of the algorithms
 - v. The scientific reasons underlying the choice of metrics developed

4.4.22. **EO RESEARCHER (ELECTRICAL)**

4.4.22.1. **Examples of Potential Work Associated with the Category**

Without limitation, the researcher is expected to

- (a) participate in the completion of a distributed battery optimization study to enable a graceful shutdown of the control and interface computers of the various sensors and emitters on a Griffon-type platform;
- (b) participate in modelling a system based on the optimization study, taking into account the airworthiness constraints of a Griffon platform;
- (c) participate in formulating recommendations for potential solutions respecting the operational requirements and constraints of a Griffon platform.

4.4.22.2. **Mandatory Criteria (MC) Associated with the Category**

MC1	Training	The proposed resource must have a graduate degree or higher in an electrical field.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level requested in the CAF) of electrical work experience in the EO field.

4.4.22.3. **Examples of Point-Rated Criteria (PRC) Associated with the Category**

		Max pts: 10 pts
PRC1 Experience relating to UPS (uninterruptible power supply)		Min pts: n/a
The proposed resource has not participated in the design, development or modification of an uninterruptible power supply.		0 pts
The proposed resource has participated the design, development or modification of one (1) uninterruptible power supply.		2 pts
The proposed resource has participated the design, development or modification of two (2) uninterruptible power supplies.		4 pts
The proposed resource has participated the design, development or modification of two (2) uninterruptible power supplies based on the use of distributed battery networks.		8 pts
The proposed resource has participated the design, development or modification of two (2) uninterruptible power supplies based on the use of a distributed battery network on an airborne platform.		10 pts
		Max pts: pts
PRC2 Experience in modelling electrical systems		Min pts: n/a
The proposed resource has not modelled an electrical system.		0 pts
The proposed resource has modelled at least two (2) electrical systems with a minimum of two (2) computers interfaced with a minimum of four (4) sensing or emitting components.		2 pts
The proposed resource has modelled at least two (2) electrical systems with a minimum of two (2) computers interfaced with a minimum of four (4) sensing or		6 pts

emitting components and equipped with an uninterruptible power supply.

The proposed resource has modelled at least two (2) electrical systems with a minimum of two (2) computers interfaced with a minimum of four (4) sensing or emitting components and equipped with an uninterruptible power supply, at least one (1) of which is integrated with an airborne platform.

10 pts

	Max pts: 10 pts
PRC3 Experience in writing reports	Min pts: n/a
<ul style="list-style-type: none">• For the purposes of point-rated sub-criteria PRC3a, PRC3b and PRC3c:<ul style="list-style-type: none">• the term “report” is defined as a scientific or technical document on a subject in an electrical field;• the term “lead writer” means an author who has written more than 65% of a report’s content.	
PRC3a , The proposed resource has participated in the writing of reports, two (2) points per report selected, to a maximum of five (5) points.	Max 5 pts
PRC3b , Of the reports selected under PRC4a, one (1) point per report of which the proposed resource was the lead writer, to a maximum of two (2) points.	Max 2 pts
PRC3c , Of the reports selected under PRC4a, one (1) point per report of which the main subject is uninterrupted power supply systems, to a maximum of three (3) points.	Max 3 pts
TOTAL	Max pts: 30 pts
	Min pts: TBD

4.4.22.4. Examples of Deliverables Associated with the Category

- (a) The optimization study;
- (b) The models in Matlab/Simulink format;
- (c) A report describing:
 - i. The conclusions of the optimization study;
 - i. The development and decision-making process for the simulations;
 - ii. Recommendations for potential solutions and the theoretical demonstration of the soundness of the proposed solutions, including a demonstration that airworthiness constraints and requirements have been respected.

4.4.23. EO RESEARCHER (MECHANICAL)

4.4.23.1. Examples of Potential Work Associated with the Category

Without limitation, the researcher is expected to

- (a) participate in the design and modelling (3D CAD and finite element analysis) of (reconfigurable) modular pods for the C-130J platform on which two to four sensors may be placed, including radars, EO cameras, LIDAR systems and/or two to four wireless communication systems (TCDL, L16, 4G LTE, etc.);
- (b) participate in the manufacture of a prototype of the designed and modelled pod;
- (c) participate in laboratory and field trials to test the pod's performance.

4.4.23.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have a graduate degree or higher in a mechanical field.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level requested in the CAF) of mechanical work experience in the EO field.

4.4.23.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

PRC1 Experience in installing of sensors and communication systems on an airborne platform	Max pts: 20 pts
	Min pts: TBD
The proposed resource has not participated in any installation of sensors or communication systems on an airborne platform	0 pts
PRC1a The proposed resource has participated in the functional installation of sensors on an airborne platform, one (1) point for each individual sensor, to a maximum of five (5) points.	Max 5 pts
PRC1b For the sensors installed in PRC1a, one (1) point per sensor installed on a pod bearing a minimum of two (2) sensors and/or communication systems.	Max 5 pts
PRC1c The proposed resource has participated in the functional installation of wireless communication systems on an airborne platform, one (1) point for each individual system, to a maximum of five (5) points.	Max 5 pts
PRC1d For the systems installed under PRC1c, one (1) point per system installed on a pod bearing a minimum of two (2) sensors and/or wireless communication systems.	Max 5 pts
	Max pts: 12 pts
PRC2 Experience relating to modular pod design	Min pts: n/a
<ul style="list-style-type: none"> • For the purposes of this criterion, the resource must have performed the described task for a minimum of one hundred and twenty (120) hours, for a project to be considered. • For the purposes of this criterion, a modular pod includes a quick disconnect pod for which it is possible to change the connected components (sensors and/or wireless communication systems) without changing its connection to the airborne platform. 	
The proposed resource has not participated in the design of a modular pod.	0 pts

The proposed resource has participated in the design of a modular pod.	2 pts
The proposed resource has participated in the design of one (1) modular pod at level TRL 5 or 6.	4 pts
The proposed resource has participated in the design of one (1) modular pod at level TRL 7.	6 pts
The proposed resource has participated in the design of one (1) modular pod at level TRL 8 or higher.	8 pts
The proposed resource has participated in the design of at least two (2) modular pods, at least one (1) of which is at level TRL 7 or higher.	10 pts
The proposed resource has participated in the design of at least two (2) modular pods, at least one (1) of which is at level TRL 8 or higher.	12 pts

	Max pts: 10 pts
PRC2 Experience relating to finite element modelling and analysis	Min pts: n/a
The proposed resource has performed finite element modelling and analysis for fewer than two (2) quick disconnect mechanical components.	0 pts
The proposed resource has performed finite element modelling and analysis for at least two (2) quick disconnect mechanical components.	3 pts
The proposed resource has performed finite element modelling and analysis for at least two (2) quick disconnect pods.	6 pts
The proposed resource has performed finite element modelling and analysis for at least three (3) quick disconnect mechanical components.	7 pts
The proposed resource has performed finite element modelling and analysis for at least three (3) quick disconnect pods.	10 pts
TOTAL	Max pts: 42 pts
	Min pts: TBD

4.4.23.4. Examples of Deliverables Associated with the Category

- (a) Modular pod;
- (b) 3D CAD of modular pod;
- (c) A report describing:
 - i. The concept of the developed pod;
 - ii. An analysis of technical problems and solution strategies;
 - iii. Investigations, corrections and optimizations performed;
 - iv. Experimental results obtained in the form of tables and/or graphs.

4.4.24. EO RESEARCHER (MATHEMATICS)

4.4.24.1. Examples of Potential Work Associated with the Category

Without limitation, the researcher is expected to

- (a) participate in the theoretical development and design of algorithms for visible and infrared EO system image enhancement processing for target detection purposes;
- (b) participate in the theoretical development and design of algorithms for fusing EO system images from different visible and infrared spectral bands;
- (c) participate in analyzing the relevance of algorithms for EO system image enhancement processing, to identify targets under operational conditions.

4.4.24.2. Mandatory Criteria (MC) Associated with the Category

MC1	Training	The proposed resource must have a graduate degree or higher in a mathematical field.
MC2	Experience in EO	The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level requested in the CAF) of work experience in mathematics in the EO field.

4.4.24.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

PRC1 Experience relating to image enhancement processing	Max pts: 12 pts
	Min pts: n/a
<ul style="list-style-type: none"> • For the purposes of this criterion, the resource must have performed the described task for a minimum of fifty (50) hours for a project to be considered. 	
The proposed resource has participated in fewer than two (2) projects where he or she was involved in the use of algorithms for EO system image enhancement processing for target detection purposes.	0 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the use of algorithms for EO system image enhancement processing for target detection purposes.	2 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the use of algorithms for visible and infrared EO system image enhancement processing for target detection purposes.	4 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the modification of algorithms for EO system image enhancement processing for target detection purposes.	6 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the modification of algorithms for visible and infrared EO system image enhancement processing for target detection purposes.	8 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the design and development of algorithms for EO system image enhancement processing for target detection purposes.	10 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the design and development of algorithms for visible and infrared	12 pts

EO system image enhancement processing for target detection purposes.

PRC2 Experience relating to algorithms for the fusion of images from EO systems	Max pts: 16 pts
	Min pts: n/a
<ul style="list-style-type: none">For the purposes of this criterion, the resource must have performed the described task a minimum of fifty (50) hours for a project to be considered.	
The proposed resource has participated in fewer than two (2) projects where he or she was involved in the use of algorithms relating to the fusion of images from EO systems and different spectral bands for target detection purposes.	0 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the use of algorithms relating to the fusion of images from EO systems and different spectral bands for target detection purposes.	2 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the use of algorithms relating to the fusion of images from EO systems and different visible and infrared spectral bands for target detection purposes.	4 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the modification of algorithms relating to the fusion of images from EO systems and different spectral bands for target detection purposes.	6 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the modification of algorithms relating to the fusion of images from EO systems and different visible and infrared spectral bands for target detection purposes.	10 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the design and development of algorithms relating to the fusion of images from EO systems and different spectral bands for target detection purposes.	12 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the design and development of algorithms relating to the fusion of images from EO systems and different visible and infrared spectral bands for target detection purposes.	16 pts

PRC3 Experience relating to metrics for analyzing algorithms for processing and analyzing EO system imagery	Max pts: 16 pts
	Min pts: n/a
<ul style="list-style-type: none">For the purposes of this criterion, the resource must have performed the described task for a minimum of thirty (30) hours for a project to be considered.	
The proposed resource has participated in fewer than two (2) projects where he or she was involved in the use of metrics for analyzing the suitability of algorithms for processing EO system imagery under operational conditions for target detection purposes.	0 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in the use of metrics for analyzing the suitability of algorithms for	2 pts

processing EO system imagery under operational conditions.

The proposed resource has participated in at least two (2) projects where he or she was involved in the use of metrics for analyzing the suitability of algorithms for processing EO system imagery under operational conditions for target detection purposes. **4 pts**

The proposed resource has participated in at least two (2) projects where he or she was involved in the modification of metrics for analyzing the suitability of algorithms for processing EO system imagery under operational conditions. **6 pts**

The proposed resource has participated in at least two (2) projects where he or she was involved in the modification of metrics for analyzing the suitability of algorithms for processing EO system imagery under operational conditions for target detection purposes. **10 pts**

The proposed resource has participated in at least two (2) projects where he or she was involved in the design and development of metrics for analyzing the suitability of algorithms for processing EO system imagery under operational conditions. **12 pts**

The proposed resource has participated in at least two (2) projects where he or she was involved in the design and development of metrics for analyzing the suitability of algorithms for processing EO system imagery under operational conditions for target detection purposes. **16 pts**

PRC4 Experience in writing reports **Max pts: 10 pts**
Min pts: n/a

- For the purposes of this criterion:
 - the term “report” is defined as a scientific or technical document on the subject of algorithms for the processing or fusion of images from EO system;
 - the term “lead writer” means an author who has written more than 65% of a report’s content.

The proposed resource has participated in the writing of fewer than two (2) reports. **0 pts**

The proposed resource has participated in the writing of at least two (2) reports. **2 pts**

The proposed resource has participated in the writing of at least two (2) reports and was the leader writer of at least one (1) of those reports. **4 pts**

The proposed resource has participated in the writing of at least three (3) reports and was the leader writer of at least two (2) of those reports. **7 pts**

The proposed resource has participated in the writing of at least four (4) reports and was the leader writer of at least three (3) of those reports. **10 pts**

TOTAL **Max pts: 54 pts**
Min pts: TBD

4.4.24.4. Examples of Deliverables Associated with the Category

- (a) Theorized or designed algorithms;
- (b) A report describing:
 - i. The work methodology used;
 - ii. A comprehensive description of the theorized or designed algorithms and their expected and/or observed performance;
 - iii. The analysis of the suitability of the algorithms in operational situations;
 - iv. All raw, processed and fused data and any analysis that may have been performed;
 - v. A list of algorithm challenges relating to image enhancement and fusion in operational situations that should be addressed in future work.

4.4.25. EO RESEARCHER (CHEMISTRY)

4.4.25.1. Examples of Potential Work Associated with the Category

Without limitation, the researcher is expected to

- (a) Participate in the development and testing of algorithms for molecular modelling and simulation.
- (b) Participate in the development and testing of acquisition routines into the domain of material science, and in particular the molecular spectroscopy, bands structures (frequencies vs intensities), electronic structures and other properties.
- (c) Conduct analysis of IR spectra (theoretical/experimental) of different crystals.
- (d) Participate in the development and testing of algorithms to conduct the generation of IR spectra.
- (e) Conduct literature reviews and IR spectra predictions

4.4.25.2. Mandatory Criteria (MC) Associated with the Category

MC1 Training The proposed resource must have a graduate degree or higher in a chemical field.

MC2 Experience in EO The proposed resource must have at least twelve (12), thirty-six (36) or one hundred and twenty (120) months (depending on the resource level requested in the CAF) of work experience in chemistry in the EO field.

4.4.25.3. Examples of Point-Rated Criteria (PRC) Associated with the Category

	Max pts: 10 pts
PRC1 Experience relating to atmospheric dispersion of aerosols	Min pts: n/a
The proposed resource has participated in fewer than two (2) projects where he or she was involved in molecular modeling and simulation.	0 pts
The proposed resource has participated in at least two (2) projects where he or she was involved in molecular modeling and simulation.	2 pts
The proposed resource has participated in more than two (2) projects where he or she was involved in molecular modeling and simulation.	4 pts
The proposed resource has participated in two (2) projects where he or she was involved in the development of algorithms for molecular modeling and simulation.	6 pts
The proposed resource has participated in more than two (2) projects where he or she was involved in the development of algorithms for molecular modeling and simulation.	8 pts
The proposed resource has participated in more than two (2) projects where he or she was involved in the development of algorithms for molecular modeling and simulation and has authored or co-authored a peer-reviewed publication on molecular modeling and simulation.	10 pts
PRC2 Knowledge of diffuse and specular reflection of laser signals	Max pts: 20 pts
	Min pts: n/a

The proposed resource has participated in fewer than two (2) projects where he or she was involved in modelling the diffuse and specular reflection of laser signals. **0 pts**

The proposed resource has participated in two (2) projects where he or she was involved in modelling the diffuse and specular reflection of laser signals. **4 pts**

The proposed resource has participated in more than two (2) projects where he or she was involved in modelling the diffuse and specular reflection of laser signals. **8 pts**

The proposed resource has participated in two (2) projects where he or she was involved in developing algorithms for the diffuse and specular reflection of laser signals. **12 pts**

The proposed resource has participated in more than two (2) projects where he or she was involved in developing algorithms for the diffuse and specular reflection of laser signals. **16 pts**

The proposed resource has participated in more than two (2) projects where he or she was involved in developing algorithms for the diffuse and specular reflection of laser signals and has authored or co-authored a peer-reviewed publication on the diffuse and specular reflection of laser signals. **20 pts**

PRC3 Experience relating to the acquisition of single or multiple laser sources

Max pts: 15 pts

Min pts: n/a

The proposed resource has participated in fewer than two (2) projects where he or she was involved in the development of acquisition routines for (single or multiple) laser sources. **0 pts**

The proposed resource has participated in two (2) projects where he or she was involved in acquisition routines for (single or multiple) laser sources. **3 pts**

The proposed resource has participated in at least two (2) projects where he or she was involved in acquisition routines for multiple laser sources. **6 pts**

The proposed resource has participated in at least four (4) projects where he or she was involved in the development of acquisition routines for laser sources, at least two (2) of which involved multiple laser sources. **9 pts**

The proposed resource has participated in at least six (6) projects where he or she was involved in the development of acquisition routines for laser sources, at least four (4) of which involved multiple laser sources. **12 pts**

The proposed resource has participated in at least eight (8) projects where he or she was involved in the development of acquisition routines for laser sources, at least six (6) of which involved multiple laser sources. **15 pts**

PRC4 Experience in writing reports

Max pts: 10 pts

Min pts: n/a

- For the purposes of this criterion:
 - the term "report" is defined as a scientific or technical document on the subject of laser/atmosphere interaction phenomena and dealing with modelling, the acquisition of laser

- signals and the analysis of experimental data in these areas;
- the term “lead writer” means an author who has written more than 65% of a report’s content.

The proposed resource has participated in the writing of fewer than two (2) reports.	0 pts
The proposed resource has participated in the writing of at least two (2) reports.	2 pts
The proposed resource has participated in the writing of at least three (3) reports and was the lead writer of at least one (1) of those reports.	4 pts
The proposed resource has participated in the writing of at least four (4) reports and was the lead writer of at least two (2) of those reports.	6 pts
The proposed resource has participated in the writing of at least six (6) reports and was the lead writer of at least four of those reports.	8 pts
The proposed resource was the lead writer of at least six (6) reports.	10 pts

TOTAL	Max pts: 55 pts
	Min pts: TBD

4.4.25.4. Examples of Deliverables Associated with the Category

- (a) The algorithms and routines developed;
- (b) A report describing:
 - i. The algorithms and routines developed;
 - ii. The experimental results obtained in the form of tables and/or graphs;
 - iii. In-depth analyses of the data obtained.

5. OTHER USEFUL INFORMATION

5.1. Format of Deliverables

- 5.1.1. The format of the deliverables (paper, CD, USB key, etc.) and the number of copies required will be defined in the CAF.
- 5.1.2. The deliverables may have to be provided in either of Canada's official languages. This requirement will be indicated in the CAF.

5.2. Addresses of the various Research Centres likely to make use of the Standing Offers

DRDC Valcartier	DRDC Suffield	DRDC Toronto	DRDC Atlantic	DRDC Ottawa
2459 Route de la Bravoure Québec, QC G3J 1X5	PO Box 4000 Stn Main Medicine Hat, AB T1A 8K6	1133 Sheppard Avenue West Toronto, ON M3K 2C9	PO Box 1012 Dartmouth, NS B2Y 3Z7	3701 Carling Avenue Ottawa, ON K1A 0Z4

5.3. Off-site Work and Travel Expenses

Some work or portions of work may need to be performed outside of the various Research Centres listed in 5.2 of this Annex. Whenever work must be performed outside of one of the sites of the Centre indicated in the call-up, and subject to the approval of the Technical Authority, the Supplier will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the work, at actual cost, without any allowance for profit and/or administrative overhead. An estimate of these expenses must be submitted in a response to a CAF.

5.4. Subsequent Updates to Statement of Requirements

On a yearly basis, and before the Standing Offer is refreshed, changes may be made to the Statement of Requirements and, by extension, to the resource categories. These changes may relate to the following, among others: the addition, removal or revision of target technologies. These changes will be posted on the Government Electronic Tendering Service.

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N° de la modif - Amd. No.
File No. - N° du dossier
009ST.W7701-145859

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

5.5. Example of Processes for Evaluating and Selecting Suppliers as Part of a CAF to Determine Which Call-Ups Will be Issued

5.5.1. Example of an Evaluation for a CAF Setting Out a Requirement for Three (3) Resources in Three (3) Different Resource Categories

Resource Category and Associated Evaluation Criteria		Suppliers				
EO Research Technician in Physics, Level 2		ABC	EFG	JKL	MNO	
For 300 hours						
Mandatory Criteria (MC)		Mandatory Criteria Met				
MC1 Training	The proposed resource must have a diploma in Engineering Physics Technology OR a post-secondary diploma in Science with an Attestation of Collegial Studies in the physics field and twenty-four (24) months of work experience in general physics, therefore not exclusively in the EO field.	YES	YES	YES	YES	
MC2 Experience in EO	The proposed resource must have at least thirty-six (36) months of work experience in physics in the EO field.	YES	YES	YES	YES	
Point-Rated Criteria (PRC)		Points Received				
PRC1 Experience in calibrating and handling EO measurement instruments	Max pts: 10 Pts	10	8	6	6	
PRC2 Experience in calibrating and handling optical systems covering ultraviolet (UV) to infrared (IR) and including image intensifier systems	Max pts: 10 Pts	10	8	8	8	
PRC3 Experience in taking the following measurements on vision systems and/or optical components On-axis MTF, off-axis MTF, distortion, relative illumination, f/# and spectral transmission	Max pts: 12 Pts Min required: 6 Pts	8	8	10	8	
PRC4 Experience in field testing	Max pts: 5 Pts	4	2	4	0	
PRC5 Experience in writing reports	Max pts: 5 Pts	3	3	3	5	
TOTAL	Maximum score	42 Pts	35	29	31	27
	Minimum score required	25 Pts	Responsive	Responsive	Responsive	Responsive
Hourly rates		\$88.00	\$84.00	\$83.00	\$86.00	
Prices		\$26,400.00	\$25,200.00	\$24,900.00	\$25,800.00	

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Id de l'acheteur - Buyer ID
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(Continued)

Resource Category and Associated Evaluation Criteria		Suppliers			
EO Research Technician in Mechanics, Level 1 For 300 hours		ABC	EFG	JKL	MNO
Mandatory Criteria (MC)		Mandatory Criteria Met			
MC1 Training	The proposed resource must have a diploma in Mechanical Engineering Technology OR a post-secondary diploma in Science with an Attestation of Collegial Studies in the mechanics field and twenty-four (24) months of work experience in general mechanics, therefore not exclusively in the EO field.	YES	YES	YES	YES
MC2 Experience in EO	The proposed resource must have at least twelve (12) months of work experience in mechanics in the EO field.	YES	YES	YES	YES
Point-Rated Criteria (PRC)		Points Received			
PRC1 Experience in using 2D and 3D CAD tools	Max pts: 12 Pts	3	9	9	9
PRC2 Experience in finite element modelling and analysis	Max pts: 12 Pts	3	9	6	9
PRC3 Experience in manufacturing and integrating opto-mechanical elements in EO systems	Max pts: 12 Pts	10	8	8	10
TOTAL	Maximum score	16	26	23	28
	Minimum score required	Non-responsive	Responsive	Responsive	Responsive
Hourly rates		N/A	\$70.00	\$68.00	\$74.00
Prices			\$21,000.00	\$20,400.00	\$22,200.00

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(Continued)

Resource category and associated evaluation criteria		Suppliers			
		ABC	EFG	JKL	MNO
EO Researcher (Electrical) OR EO Researcher (Electronics), Level 2 For 50 hours					
Mandatory Criteria (MC)		Mandatory Criteria Met			
EO Researcher (Electrical)					
MC1 Training	The proposed resource must have a university undergraduate degree or higher in an electrical field	YES	N/A	NO	N/A
MC2 Experience in EO	The proposed resource must have at least 36 months of work experience in an EO-related electrical field	YES		N/A	
OR					
EO Researcher (Electronics)					
MC1 Training	The proposed resource must have a university undergraduate degree or higher in electronics	N/A	YES	N/A	YES
MC2 Experience in EO	The proposed resource must have at least 36 months of work experience in EO-related electronics		YES	NO	YES
Point-Rated Criteria (PRC)		Points Received			
PRC1 Experience in power supply management for armoured military platforms Max pts: 32 Pts		16	24	N/A	16
PRC2 Experience in electrical supply management for EO systems Max pts: 24 Pts		24	16	N/A	8
TOTAL	Maximum score	40	40	N/A	24
	Minimum score required	Responsive	Responsive	Non-responsive *	Responsive
Hourly rates		\$157.00	\$159.00	N/A	\$162.00
Prices		\$7,850.00	\$7,950.00		\$8,100.00

* The non-responsiveness of this resource from Supplier JKL is explained in section 4.3.1.3

Evaluation results for this example

Bidders	EO Research Technician in Physics, Level 2		EO Research Technician in Mechanics, Level 1		EO Researcher (Electrical) OR EO Researcher (Electronics), Level 2		TOTALS			
	Points	Cost	Points	Cost	Points	Cost	Cost	Points	\$/pt Ratio	Rank
ABC	35	\$26,400.00	N/R		40	\$7,850.00	\$34,250.00	75	\$456.67	1
EFG	29	\$25,200.00	26	\$21,000.00	40	\$7,950.00	\$54,150.00	95	\$570.00	2
JKL	31	\$24,900.00	23	\$20,400.00	N/R		\$45,300.00	54	\$838.89	4
MNO	27	\$25,800.00	28	\$22,200.00	24	\$8,100.00	\$56,100.00	79	\$710.13	3

N/R: Non-responsive

Based on this example, two call-ups will be issued:

A call-up valued at \$34,250.00 for the EO Research Technician in Physics, Level 2, and the EO Researcher (Electrical), Level 2, will be issued to Supplier ABC, which came in first in terms of price per point.

A second call-up valued at \$21,000.00 for the EO Research Technician in Mechanics, Level 1, will be issued to Supplier EFG, which came in second in terms of price per point.

ANNEX B - BASIS OF PAYMENT

1.0 **Firm all-inclusive hourly rate – Resources**

The rate tables will be inserted before standing offers issuance.

Note regarding work performed as part of field tests only, overtime:

After a work period of 7.5 consecutive hours, the Supplier may claim 1.5 times the firm all-inclusive hourly rate listed in the tables above for any time worked beyond the first 7.5 hours in a given day. Overtime hours cannot be claimed unless they are pre-approved by the Technical Authority.

2.0 **Travel and Living Expenses**

The Supplier will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the work, at cost, without any allowance for profit and/or administrative overhead, in accordance with appendices B, C and D of the National Joint Council Travel Directive <http://www.njc-cnm.gc.ca/directive/d10/en>.

Estimated Amount: to be determined in the call-up.

ANNEX C - SECURITY REQUIREMENTS CHECK LIST (SRCL)

Take note:

The needs arising from this Standing Offer may include security requirements not determined at the time the standing offers are awarded and may reach Top Secret level. For this reason, the Identified User will identify and include the common SRCL and associated security clauses in each individual call-ups and Confirmation of Availability Form (CAF). Once made available, common SRCLs will be shared with SO holders.

The following SRCL includes the basic security requirements, as per specified in the SO:

RECEIVED

SEP 20 2016



Government of Canada

Gouvernement du Canada

Contract Number / Numéro du contrat

W7701-145859

Security Classification / Classification de sécurité
Non classifié

SECURITY REQUIREMENTS CHECK LIST (SRCL)
LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine		2. Branch or Directorate / Direction générale ou Direction	
Ministère de la défense nationale		Recherche et développement pour la défense Canada	
3. a) Subcontract Number / Numéro du contrat de sous-traitance		3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant	
4. Brief Description of Work / Brève description du travail Offres à commandes visant à combler des besoins ponctuels en services professionnels et scientifiques liés à la recherche et développement dans le domaine de l'Électro-optique et de l'infrarouge. Ces services couvrent l'ensemble des spectres concernés et vont de la conception, le développement et la fabrication en passant par la caractérisation, le développement logiciel et les opérations. Les services seront rendus sur les sites du RDDC (Atlantique, Valcartier, Ottawa, Toronto, Suffield, avec une prédominance de services rendus au RDDC Valcartier)			
5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?		<input type="checkbox"/> No Non	<input checked="" type="checkbox"/> Yes Oui
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?		<input checked="" type="checkbox"/> No Non	<input type="checkbox"/> Yes Oui
6. Indicate the type of access required / Indiquer le type d'accès requis			
6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)		<input type="checkbox"/> No Non	<input checked="" type="checkbox"/> Yes Oui
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.		<input checked="" type="checkbox"/> No Non	<input type="checkbox"/> Yes Oui
6. c) Is this a commercial courier or delivery requirement with no overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit?		<input checked="" type="checkbox"/> No Non	<input type="checkbox"/> Yes Oui
7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès			
Canada <input checked="" type="checkbox"/>		NATO / OTAN <input type="checkbox"/>	Foreign / Étranger <input type="checkbox"/>
7. b) Release restrictions / Restrictions relatives à la diffusion			
No release restrictions Aucune restriction relative à la diffusion <input checked="" type="checkbox"/>		All NATO countries Tous les pays de l'OTAN <input type="checkbox"/>	No release restrictions Aucune restriction relative à la diffusion <input type="checkbox"/>
Not releasable À ne pas diffuser <input type="checkbox"/>		Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>
Restricted to: / Limité à: <input type="checkbox"/>		Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:
7. c) Level of information / Niveau d'information			
PROTECTED A PROTÉGÉ A <input checked="" type="checkbox"/>		NATO UNCLASSIFIED NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED A PROTÉGÉ A <input type="checkbox"/>
PROTECTED B PROTÉGÉ B <input checked="" type="checkbox"/>		NATO RESTRICTED NATO DIFFUSION RESTREINTE <input type="checkbox"/>	PROTECTED B PROTÉGÉ B <input type="checkbox"/>
PROTECTED C PROTÉGÉ C <input type="checkbox"/>		NATO CONFIDENTIAL NATO CONFIDENTIEL <input type="checkbox"/>	PROTECTED C PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>		NATO SECRET NATO SECRET <input type="checkbox"/>	CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>
SECRET SECRET <input type="checkbox"/>		COSMIC TOP SECRET COSMIC TRÈS SECRET <input type="checkbox"/>	SECRET SECRET <input type="checkbox"/>
TOP SECRET TRÈS SECRET <input type="checkbox"/>			TOP SECRET TRÈS SECRET <input type="checkbox"/>
TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>			TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>



Government of Canada / Gouvernement du Canada

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PART A (continued) / PARTIE A (suite)

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui

If Yes, indicate the level of sensitivity:
Dans l'affirmative, indiquer le niveau de sensibilité :

9. Will the supplier require access to extremely sensitive INFOSEC information or assets?
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate? No / Non Yes / Oui

Short Title(s) of material / Titre(s) abrégé(s) du matériel :
Document Number / Numéro du document :

PART B - PERSONNEL (SUPPLIERS) / PARTIE B - PERSONNEL (FOURNISSEUR)

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

- | | | | |
|---|---|---|--|
| <input checked="" type="checkbox"/> RELIABILITY STATUS
COTE DE FIABILITE | <input type="checkbox"/> CONFIDENTIAL
CONFIDENTIEL | <input type="checkbox"/> SECRET
SECRET | <input type="checkbox"/> TOP SECRET
TRÈS SECRET |
| <input type="checkbox"/> TOP SECRET-SIGINT
TRÈS SECRET - SIGINT | <input type="checkbox"/> NATO CONFIDENTIAL
NATO CONFIDENTIEL | <input type="checkbox"/> NATO SECRET
NATO SECRET | <input type="checkbox"/> COSMIC TOP SECRET
COSMIC TRÈS SECRET |
| <input type="checkbox"/> SITE ACCESS
ACCÈS AUX EMPLACEMENTS | | | |

Special comments:
Commentaires spéciaux :

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.
REMARQUE: Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work?
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail? No / Non Yes / Oui
If Yes, will unscreened personnel be escorted?
Dans l'affirmative, le personnel en question sera-t-il escorté? No / Non Yes / Oui

PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises?
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui

11. b) Will the supplier be required to safeguard COMSEC information or assets?
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC? No / Non Yes / Oui

PRODUCTION

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises?
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ? No / Non Yes / Oui

INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data?
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS? No / Non Yes / Oui

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency?
Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale? No / Non Yes / Oui



Contract Number / Numéro du contrat W7701-145859
Security Classification / Classification de sécurité Non classifié

PART C - (continued) / PARTIE C - (suite)

For users completing the form **manually** use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.
 Les utilisateurs qui remplissent le formulaire **manuellement** doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form **online** (via the Internet), the summary chart is automatically populated by your responses to previous questions.
 Dans le cas des utilisateurs qui remplissent le formulaire **en ligne** (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

Category / Catégorie	PROTECTED / PROTÉGÉ			CLASSIFIED / CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL	SECRET	TOP SECRET	NATO RESTRICTED	NATO CONFIDENTIAL	NATO SECRET	COSMIC TOP SECRET	PROTECTED / PROTÉGÉ			CONFIDENTIAL	SECRET	TOP SECRET
				CONFIDENTIEL		TRES SECRET	NATO DIFFUSION RESTREINTE	NATO CONFIDENTIEL		COSMIC TRÈS SECRET	A	B	C	CONFIDENTIEL		TRES SECRET
Information / Assets / Renseignements / Biens																
Production																
IT Media / Support TI																
IT Link / Lien Électronique																

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
 La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE? No / Non Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".
 Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?
 La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE? No / Non Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).
 Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquez qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).

ANNEX D - CONTRACTOR DISCLOSURE OF FOREGROUND INFORMATION

Please refer to **Article 1 - Interpretation of 2040 General Conditions** for the definition of Foreground Information to determine what information must be disclosed.

The Contractor must provide the following information:

1. Contract No.:
2. What is the descriptive title of the FIP (Foreground Intellectual Property)?
3. Abbreviated description of the FIP and, if applicable, of the different systems and sub-systems.
4. What is or was the objective of the project?
5. Explain how the FIP meets the objective of the project (for example: the advantage of the new solution, what problem did the FIP resolve or what benefits did the FIP deliver).
6. Under which category(ies) would you best describe the FIP and why: Patents, Inventions, Trade Secrets, Copyright, Industrial Designs, Rights in Integrated Circuit Topography, Know-how, Other?
7. Describe the features or aspects of the FIP that are novel, useful and not obvious.
8. Has the FIP been tested or demonstrated? If yes, please summarize the results.
9. Has any publication or disclosure to others been made? If so, to whom, when, where and how?
10. Provide names and addresses of the inventors.
11. Provide an explicit and detailed description of the FIP developed during the contract (Refer to pertinent section of the technical report, if necessary).

Please specify name and position of person approving / authorizing this disclosure. This person is to sign and date the disclosure.

Signature _____ Date _____

Name _____ Title _____

(Internal DRDC Valcartier)

Signature _____ Date _____

Name _____ Title (Technical Authority) _____

ANNEX E - VISIT CLEARANCE REQUEST (VCR)

Upon request, this form will be provided to the Supplier by the Identified User.