

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Réception des soumissions - TPSGC / Bid
Receiving - PWGSC
601-1550, Avenue d'Estimauville
Québec
Québec
G1J 0C7

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

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

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

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

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

Comments - Commentaires

Title - Sujet Study of Optronics		
Solicitation No. - N° de l'invitation W7701-135588/A	Date 2013-02-06	
Client Reference No. - N° de référence du client W7701-13-5588		
GETS Reference No. - N° de référence de SEAG PW-\$QCL-002-15216		
File No. - N° de dossier QCL-2-35502 (002)	CCC No./N° CCC - FMS No./N° VME	
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-02-22		Time Zone Fuseau horaire Heure Normale du l'Est HNE
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>		
Address Enquiries to: - Adresser toutes questions à: Brisebois, Aline		Buyer Id - Id de l'acheteur qcl002
Telephone No. - N° de téléphone (418) 649-2883 ()		FAX No. - N° de FAX (418) 648-2209
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: R & D POUR LA DÉFENSE CANADA VALCARTIER BATIMENT 2459 BLVD PIE XI NORD QUEBEC Québec G3J1X5 Canada		

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

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

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

Issuing Office - Bureau de distribution

TPSGC/PWGSC
601-1550, Avenue d'Estimauville
Québec
Québec
G1J 0C7

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PART 1 - GENERAL INFORMATION

1. Introduction

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

Part 1 General Information: provides a general description of the requirement;

Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;

Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;

Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;

Part 5 Certifications: includes the certifications to be provided;

Part 6 Security, Financial Requirements: includes specific requirements that must be addressed by bidders; and

Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work, the Basis of Payment and Security Requirements Check List.

2. Summary

(i) The objectives of the work are:

1. To perform a study on existing and potential laser technologies for ranging and targeting capability for small arms. The work will be divided into two sections: (i) Existing state-of-the-art laser ranging and targeting technologies for small arms; (ii) Potential laser technologies such as the traditional one dimensional, fix beam, aim-and-shoot to one or two dimensional laser scanning to two dimensional flash lidar. Specification, capability and limitation on ranging and targeting up to 600m standoff distance shall be analysed.
2. To perform a review on existing literature and furthermore to perform studies and analysis to determine targeting task requirement and performance with the use of direct optics and optronic-type or pixelated, electro-optical viewing devices in small arm operations. The first goal is to determine both direct optic and optronic-type viewing devices for their performance under various parameters and field situations; and secondly, to answer the ultimate question whether sighting and targeting performance of optronic-type viewing technologies is comparable, as good as, or better than that of direct optic viewing technology. From the latter, capabilities and limits will be determined and quantitatively compared with both technologies. Due to the facts that both technologies have distinct characteristics and also these viewing devices are to produce the best viewable image to be perceived by human eyes which have direct implication on sighting and targeting performance, study and analysis on requirement and performance will make references

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and interpretations to human eye characteristics and working principle regarding sighting and targeting in small arm operations.

(ii) Background

Under the mandate of Future Small Arms Research (FSAR) project, DRDC will examine existing and future technologies for small arm capabilities with the objective of identifying technologies which could increase shot placement accuracy and reduce engagement time. These technologies include weapon, ammunition, optics and electro-optics. A series of studies on these subjects will be performed, some of which may involve literature survey, simulation and modelling, and experiments with modules and systems in lab and field, and user trials, etc

(iii) Client department

The services will be rendered to Defence Research and Development Canada (DRDC-Valcartier).

(iv) Period of the contract :

The period of the Contract is from date of Contract **to March 31, 2013 plus a possibility of an optional period of 1 year.**

- (v)** Pursuant to section 01 of Standard Instructions 2003, Bidders must submit a complete list of names of all individuals who are currently directors of the Bidder. Furthermore, as determined by the Special Investigations Directorate, Departmental Oversight Branch, each individual named on the list may be requested to complete a Consent to a Criminal Record Verification form and related documentation.

(vi) Other information :

The requirement is subject to the provisions of the Agreement on Internal Trade (AIT).
The requirement is subject to a preference for Canadian services.
This procurement is subject to the Controlled Goods Program.
There is a security requirement associated with this requirement.

3. Debriefings

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

PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions

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

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

The 2003 (2012-11-19) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: sixty (60) days

Insert: hundred twenty (120) days

1.1 SACC Manual Clauses

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

2. Submission of Bids

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

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

3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than five (5) calendar days to Aline.Brisebois@tpsgc-pwgsc.gc.ca before the bid closing date. Enquiries received after that time may not be answered.

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

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4. Applicable Laws

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

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

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

Section I : Technical Bid (4 hard copies) and 2 soft copies on CD

Section II : Financial Bid (2 hard copies) and 1 soft copy on CD

Section III : Certifications (1 hard copie)

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

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

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

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

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

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

Section I : Technical Bid

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

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

Section II : Financial Bid

FOR PHASE 1 - Objectives 1 and 2 which included tasks 1 to 6.

1.1 Bidders must submit their financial bid in accordance with the following :

- (a) A firm, all inclusive lot price for the Work. The total amount of Goods and Services Tax or Harmonized Sales Tax is to be shown separately, if applicable.
- (b) For Canadian-based bidders, prices must be in Canadian funds, Canadian customs duties and excise taxes included, and Goods and Services Tax (GST) or Harmonized Sales Tax (HST) excluded.

FINANCIAL BID PRESENTATION SHEET

PHASE 1 - Objectives 1 and 2 which included tasks 1 and 2.

According to the description of the work at Annex A Phase 1 objectives 1 and 2

\$_____ A firm, all inclusive lot price for the Work.

1.1.1 Price Breakdown

Bidders are requested to detail the following elements for the performance, of the Work, as applicable:

- (a) Labour : For each individual and (or) labour category to be assigned to the Work, indicate: i) the hourly rate, inclusive of overhead and profit; and ii) the estimated number of hours.
- (b) Equipment : Specify each item required to complete the Work and provide the pricing basis of each one, Canadian customs duty and excise taxes included, as applicable. These items will be deliverable to Canada upon completion of the contract.
- (c) Materials and Supplies : Identify each category of materials and supplies required to complete the Work and provide the pricing basis.
- (d) Travel and Living Expenses : Indicate the number of trips and the number of days for each trip, the cost , destination and purpose of each journey, together with the basis of these costs which must not exceed the limits of the Treasury Board (TB) Travel Directive. With respect to the TB Directive, only the meal, private vehicle and incidental allowances specified in Appendices B, C and D of the Directive <http://www.njc-cnm.gc.ca/directive/travel-voyage/index-eng.php> , and the other provisions of the Directive referring to "travellers", rather than those referring to "employees", are applicable.
- (e) Subcontracts : Identify any proposed subcontractor and provide for each one the same price breakdown information as contained in this article.

(f) Other Direct Charges : Identify any other direct charges anticipated, such as long distance communications and rentals, and provide the pricing basis .

(g) GST/HST : Identify any applicable GST or HST separately.

FOR PHASE 2 - OPTIONAL PERIOD Objectives 1 and 2 which included tasks 3 to 10.

1.2 Bidders must submit their financial bid in accordance with the following :

A Total Cost to a Limitation of Expenditure, which must not exceed the maximum funding of **\$200,000.00**. The total amount of Goods and Services Tax or Harmonized Sales Tax is to be shown separately, if applicable. The information should be provided in accordance with the Financial Bid Presentation Sheet below.

FINANCIAL BID PRESENTATION SHEET

PHASE 2 - Optional period objectives 1 and 2 which included tasks 3 to 10.

1. LABOUR: at firm rates, inclusive of overhead, exclusive of profit, GST/HST extra, FOB destination (for goods), in accordance with the following:

BIDDERS ARE REQUESTED TO QUOTE ONE RATE PER CATEGORY OF PERSONNEL REQUIRED, PER PERIOD.

Labour Category	Firm Hourly Rate		Extended Total per Category
	Optional Period		
	April 1st, 2013 to March 31, 2014	Total Est. Hours	
	\$		\$
	\$		\$
	\$		\$
	\$		\$
	\$		\$
	\$		\$
	\$		\$
	\$		\$

TOTAL ESTIMATED LABOUR: \$ _____

2. SUBCONTRACTS: at actual cost without markup

Support for the proposed subcontractor's price is required in the same details as that required for the Bidder's price. The estimated price for subcontracts should include all direct charges and travel & living expenses which would be to the account of the subcontractor.

TOTAL ESTIMATED SUBCONTRACTS: \$ _____

3. TRAVEL AND LIVING EXPENSES at actual cost without markup but not to exceed the limits of the Treasury Board Travel Directive. With respect to the TB Travel Directive, only the meal,

private vehicle and incidental allowances specified in Appendices B, C and D of the TB Travel Directive <http://www.tbs-sct.gc.ca/hr-rh/gtla-vgcl/> and the other provisions of the directive referring to "travellers" rather than those referring to "employees", are applicable. *Details are to be provided on a separate sheet.*

- (a) Canada will not accept any travel and living expenses incurred by the Contractor in the performance of the Work, for:
 - (i) services provided within the Québec City Region (including Defence Research and Development Canada, Valcartier facility), and
 - (ii) any travel between the Contractor's place of business and the Québec City Region (including Defence Research and Development Canada, Valcartier facility).
- (b) For services to be provided outside the Québec City Region, the Contractor 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 the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the Treasury Board Travel Directive (http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/td-dv_e.asp), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees".
- (c) Canada will not accept any travel and living expenses incurred by the Contractor as a consequence of any relocation of personnel required to satisfy the terms of this Contract.
- (d) All travel must have prior authorization of the Technical Authority. All payments are subject to government audit.

TOTAL ESTIMATED TRAVEL & LIVING: \$ _____

**TOTAL ESTIMATED COST TO A LIMITATION OF EXPENDITURE: \$200 000.00
(GST/HST extra)**

1.3 SACC Manual Clauses

Section III : Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

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

1.1 Technical Evaluation

Except where expressly provided otherwise, the experience described in the bid must be the experience of the Bidder itself (which includes the experience of any companies that formed the Bidder by way of a merger but does not include any experience acquired through a purchase of assets or an assignment of contract). The experience of the Bidder's affiliates (i.e. parent, subsidiary or sister corporations), subcontractors, or suppliers will not be considered.

1.1.1 Mandatory Technical Criteria

Refer to Attachment 1, Mandatory and Point Rated Technical Criteria.

1.1.2 Point Rated Technical Criteria

Refer to Attachment 1, Mandatory and Point Rated Technical Criteria.

1.2 Financial Evaluation

1.2.1 Evaluation of Price

The price of the bid will be evaluated in Canadian dollars, the Goods and Services Tax or the Harmonized Sales Tax excluded, FOB destination, Canadian customs duties and excise taxes included.

For evaluation purposes only, the price of the bid will be determined as follows:

BID EVALUATION PRICE

The firm, all inclusive lot price for the Work for **PHASE 1 - Objectives 1 and 2 which included tasks 1 and 2.**

Plus

PHASE 2 - OPTIONAL PERIOD Objectives 1 and 2 which included tasks 3 to 10 to a maximum of \$200,000.00

2. Basis of Selection

2.1 Basis of Selection - Lowest Evaluated Price Per Point

1. To be declared responsive, a bid must:

- (a) comply with all the requirements of the bid solicitation;
- (b) meet all mandatory technical evaluation criteria;
- (c) obtain the required minimum points for each criterion and each group of criteria with a pass mark; and
- (d) obtain the required minimum points overall for the technical evaluation criteria which are subject to point rating.

Bids not meeting (a) or (b) or (c) or (d) will be declared non-responsive. Neither the responsive bid that receives the highest number of points nor the one that proposed the lowest price will necessarily be accepted. The responsive bid with the lowest evaluated price per point will be recommended for award of a contract. The evaluated price per point will be determined by dividing the evaluated price of the bid by the number of points obtained for the point rated technical evaluation criteria.

In the event that two or more responsive bids have the same lowest evaluated price per point, the responsive bid the lowest evaluated price will be recommended for award of a contract.

PART 5 - CERTIFICATIONS

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

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

1. Mandatory Certifications Required Precedent to Contract Award

1.1 Code of Conduct and Certifications - Related documentation

1.1.1 By submitting a bid, the Bidder certifies, for himself and his affiliates, to be in compliance with the

Code of Conduct and Certifications clause of the Standard instructions. The related documentation hereinafter mentioned will help Canada in confirming that the certifications are true. By submitting a bid, the Bidder certifies that it is aware, and that its affiliates are aware, that Canada may request additional information, certifications, consent forms and other evidentiary elements proving identity or eligibility. Canada may also verify the information provided by the Bidder, including the information relating to the acts or convictions specified herein, through independent research, use of any government resources or by contacting third parties. Canada will declare non-responsive any bid in respect of which the information requested is missing or inaccurate, or in respect of which the information contained in the certifications is found to be untrue, in any respect, by Canada. The Bidder and any of the Bidder's affiliates, will also be required to remain free and clear of any acts or convictions specified herein during the period of any contract arising from this bid solicitation.

Bidders who are incorporated, including those bidding as a joint venture, must provide with their bid or promptly thereafter a complete list of names of all individuals who are currently directors of the Bidder. Bidders bidding as sole proprietorship, including those bidding as a joint venture, must provide the name of the owner with their bid or promptly thereafter. Bidders bidding as societies, firms, partnerships or associations of persons do not need to provide lists of names. If the required names 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 will render the bid non-responsive. Providing the required names is a mandatory requirement for contract award.

Canada may, at any time, request that a Bidder provide properly completed and Signed Consent Forms (Consent to a Criminal Record Verification form- PWGSC-TPSGC 229) (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>) for any or all individuals aforementioned within the time specified. Failure to provide such Consent Forms within the time period provided will result in the bid being declared non-responsive.

2. Additional Certifications Precedent to Contract Award

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

2.1 Federal Contractors Program for Employment Equity - Certification

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

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

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

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

3. The Bidder, or, if the Bidder is a joint venture the member of the joint venture, certifies its status with the FCP, as follows:

The Bidder or the member of the joint venture

(a) () is not subject to the FCP, having a workforce of less than 100 full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada;

(b) () is not subject to the FCP, being a regulated employer under the *Employment Equity*

Act, S.C. 1995, c. 44;

(c) () is subject to the requirements of the FCP, having a workforce of 100 or more full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada, but has not previously obtained a certificate number from HRSDC

(having not bid on requirements of \$200,000 or more), in which case a duly signed certificate of commitment is attached;

(d) () is subject to the FCP, and has a valid certificate number as follows: _____ (e.g. has not been declared an ineligible contractor by HRSDC.)

Further information on the FCP is available on the HRSDC Web site
(<http://www.hrsdc.gc.ca/eng/labour/equality/fcp/index.shtml>).

2.2 Former Public Servant Certification

Contracts with 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 with FPS, bidders must provide the information required below.

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, in the context of the fee abatement formula, 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

Is the Bidder a FPS in receipt of a pension as defined above? **YES () NO ()**

If so, the Bidder must provide the following information:

- (a) name of former public servant;

(b) date of termination of employment or retirement from the Public Service.

Work Force Reduction Program

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of a work force reduction program? **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 reduction 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 the Goods and Services Tax or Harmonized Sales Tax.

Certification

By submitting a bid, the Bidder certifies that the information submitted by the Bidder in response to the above requirements is accurate and complete.

2.3 Canadian Content Certification

This procurement is limited to Canadian services.

The Bidder certifies that:

() the service(s) offered is(are) a Canadian service as defined in paragraph 2 of clause A3050T.

2.3.1 SACC Manual clause A3050T (2010-01-11), Canadian Content Definition

2.4 Status and Availability of Resources

The Bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's representatives and at the time specified in the bid solicitation or agreed to with Canada's representatives. If for reasons beyond its control, the Bidder is unable to provide the services of an individual named in its bid, the Bidder may propose a substitute with similar qualifications and experience. The Bidder must advise the Contracting Authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Bidder: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

If the Bidder has proposed any individual who is not an employee of the Bidder, the Bidder certifies that it has the permission from that individual to propose his/her services in relation to the Work to be performed and to submit his/her résumé to Canada. The Bidder must, upon request from the Contracting Authority, provide a written confirmation, signed by the individual, of the permission given to the Bidder and of his/her availability. Failure to comply with the request may result in the bid being declared non-responsive.

2.5 Education and Experience

The Bidder certifies that all the information provided in the résumés and supporting material submitted with its bid, particularly the information pertaining to education, achievements, experience and work history, has been verified by the Bidder to be true and accurate. Furthermore, the Bidder warrants that every individual proposed by the Bidder for the requirement is capable of performing the Work described in the resulting contract.

2.6 Language Capability

The Bidder certifies that it has the language capability required to perform the Work, as stipulated in the Statement of Work.

2.7 Manufacturer

The bidder must confirm that he/she does not own business of manufacturer(s) of optics, optronic and laser equipment or equipment for optics and optronic and laser ranging applications, and sales of such equipment is not the main line of his business. As the contract will be used to provide knowledge on existing optics, optronic and laser technology for targeting and ranging, it is critical that the bidder is not a manufacturer, salesman or retailer of such equipment.

PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS

1. Security Requirement

1. Before award of a contract, the following conditions must be met:

- (a) the Bidder must hold a valid organization security clearance as indicated in Part 7 - Resulting Contract Clauses;
- (b) the Bidder's proposed individuals requiring access to classified or protected information, assets or sensitive work site(s) must meet the security requirement as indicated in Part 7 - Resulting Contract Clauses;
- (c) the Bidder must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites.

2. Bidders are reminded to obtain the required security clearance promptly. Any delay in the award of a contract to allow the successful bidder to obtain the required clearance will be at the entire discretion of the Contracting Authority.

3. For additional information on security requirements, bidders should consult the "Security Requirements for PWGSC Bid Solicitations - Instructions for Bidders" (<http://www.tpsgc-pwgsc.gc.ca/app-acq/lc-pl/lc-pl-eng.html#a31>) document on the Departmental Standard Procurement Documents Web site.

2. Financial Capability

SACC Manual clause A9033T (2011-05-16), Financial Capability

3. Controlled Goods Requirement

SACC Manual clause A9130T (2011-05-16), Controlled Goods Program

PART 7 - RESULTING CONTRACT CLAUSES

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

1. Statement of Work

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

2. Standard Clauses and Conditions

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

2.1 General Conditions

2035 (2012-11-19), General Conditions - Higher Complexity - Services

3. Security Requirement

1. The Contractor/Offeror must, at all times during the performance of the Contract/Standing Offer, hold a valid Facility Security Clearance at the level of **SECRET**, issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).
2. The Contractor/Offeror personnel requiring access to **PROTECTED/CLASSIFIED** information, assets or sensitive work site(s) must EACH hold a valid personnel security screening at the level of **SECRET**, granted or approved by CISD/PWGSC.

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.

Until the security screening of the Contractor personnel required by this Contract has been completed satisfactorily by the CISD, PWGSC, the Contractor personnel **MAY NOT HAVE ACCESS** to (CLASSIFIED/PROTECTED) information or assets, and **MAY NOT ENTER** sites where such information or assets are kept, without an escort.

In order to gain access to Controlled Goods, the contractor personnel, who DND would deem to be embedded contractors, pursuant to the 2007 Exchange of Letters between DND and the U.S. Department of State, must **EACH be citizens of Canada and hold a valid SECRET clearance**, granted or approved by CISD/PWGSC.

3. The Contractor/Offeror **MUST NOT** remove any **PROTECTED/CLASSIFIED** information from the identified work site(s), and the Contractor/Offeror must ensure that its personnel are made aware of and comply with this restriction.

4. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.
5. The Contractor/Offeror must comply with the provisions of the:
 - (a) Security Requirements Check List and security guide (if applicable), attached at Annex C
 - (b) *Industrial Security Manual* (Latest Edition).

NOTE: There are multiple levels of release restrictions associated with this file. In this instance, a Security Guide should be added to the SRCL clarifying these restrictions. The Security Guide is normally generated by the organization's project authority and/or security authority.

4. Term of Contract

4.1 Period of Contract

The period of the Contract is from date of Contract to **March 31, 2013**.

4.2 Option to Extend the Contract

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to 1 additional 1 year period under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least 15 calendar days prior to the Contract expiry date. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Aline Brisebois
 Title: Supply specialist
 Public Works and Government Services Canada
 Acquisitions and Compensation Directorate
 601-1550 D'Estimauville Avenue
 Quebec, Quebec
 G1J 0C7

Telephone: 418-649-2883
 Facsimile: 418-648-2209
 E-mail address: Aline.Brisebois@pwgsc-tpsgc.gc.ca

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

5.2 Technical Authority

The Technical Authority for the Contract is: **(Will be identified in contract)**

Name : _____

Title : _____

Organization : _____

Address : _____

Telephone: _____

Facsimile: _____

E-mail address: _____

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

5.3 Contractor's Representative (Will be completed at the time of the contract)

Administrative representative :

Name :

Telephone :

Facsimile :

Email :

Technical representative :

Name :

Telephone :

Facsimile :

Email :

6. Payment

6.1 Basis of Payment

6.1.1 For the Work described in **PHASE 1 - Objectives 1 and 2 that include tasks 1 and 2** of the Statement of Work in Annex A.

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

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

6.1.2 For the Work described in **PHASE 2 - OPTIONAL PERIOD Objectives 1 and 2 that include tasks 3 to 10** of the Statement of Work in Annex A.

The Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work, as determined in accordance with the Basis of Payment in Annex B, to a limitation of expenditure of \$_____ (insert the amount at contract award). Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

6.1.3 **Total Estimated Contract Price : \$ _____ (Amount will be identified in the contract)**

6.2 Financial Limitation

6.2.1 Limitation of Price

For Phase 1

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

6.2.2 Limitation of Expenditure

For Phase 2

1. Canada's total liability to the Contractor under the Contract must not exceed **\$200 000.00**. Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.
2. No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not

perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:

- (a) when it is 75 percent committed, or
 - (b) four (4) months before the Contract expiry date, or
 - (c) as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work,
- whichever comes first.

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

6.3 Method of Payment

PHASE 1 - Objectives 1 and 2 which included tasks 1 and 6

6.3.1 Milestone Payments

Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract and the payment provisions of the Contract if:

- (a) **an accurate and complete claim for payment using form PWGSC-TPSGC 1111 (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/1111.pdf>)** and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- (b) all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives;
- (c) all work associated with the milestone and as applicable any deliverable required has been completed and accepted by Canada.

6.3.2 Schedule of Milestones

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

To be completed by the proposal

Milestone No.	Description OR Deliverable	Firm Amount	Due Date OR Delivery Date

PHASE 2 - OPTIONAL PERIOD Objectives 1 and 2 which included tasks 3 to 10

6.3.3 Progress Payments

1. Canada will make progress payments in accordance with the payment provisions of the Contract, no more than once a month, for cost 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>) 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 certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives.
2. The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of the item if the Work has been accepted by Canada and a final claim for the payment is submitted.

6.4 SACC Manual Clauses

H1008C (2008-05-12), Monthly Payment

C0305C (2008-05-12), Cost Submission

6.5 Discretionary Audit

C0705C (2010-01-11), Discretionary Audit

7. Invoicing Instructions - Progress Claim

For Phase 1 - Objectives 1 and 2 which included tasks 1 and 6

1. The Contractor must submit a claim for progress payment using form PWGSC-TPSGC 1111 (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/1111.pdf>).

Each claim must show:

- (a) all information required on form PWGSC-TPSGC 1111;
- (b) all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;

- (c) the description and value of the milestone claimed as detailed in the Contract.
2. Goods and Services Tax (GST) or Harmonized Sales Tax (HST), as applicable, must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no GST/HST payable as it was claimed and payable under the previous claims for progress payments.
 3. The Contractor shall prepare and certify an original and two (2) copies of the application on form PWGSC-TPSGC 1111, and sent to the following address for certification:

ATTN : Mrs Suzanne Larrivée
 Supply Support Clerk
 Public Works and Government Services Canada
 601-1550 Avenue D'Estimauville, local 601
 Québec, Québec
 G1J 0C7
E-mail address : suzanne.larrivee@tpsgc-pwgsc.gc.ca
 4. The Contractor must not submit claims until all work identified in this claim is completed.

7.1 Invoicing Instructions

For Phase 2 Optional Period Objectives 1 and 2 which included tasks 3 to 10.

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

Each invoice must be supported by:

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

8. Certifications

8.1 Compliance

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

8.2 SACC Manual Clauses

A3060C (2008-05-12), Canadian Content Certification

9. Applicable Laws

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

10. Priority of Documents

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

- (a) the Articles of Agreement;
- (b) the general conditions 2035 (2012-11-19) General Conditions - Higher complexity - services
- (c) Annex A, Statement of Work;
- (d) Annex B, Basis of Payment;
- (e) Annex C, Security Requirements Check List
- (f) the Contractor's bid dated _____

11. Defence Contract

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

12. Foreign Nationals (Canadian Contractor)

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

13. Insurance

SACC Manual clause G1005C (2008-05-12), Insurance

14. Controlled Goods Program

14.1 SACC Manual clause A9131C (2011-05-16), Controlled Goods Program

14.2 SACC Manual clause B4060C (2011-05-16), Controlled Goods

15. Progress Reports

1. The Contractor must submit monthly reports, in electronic format, on the progress of the Work, to **both the Technical Authority and the Contracting Authority.**
2. The progress report must contain three parts:

(a) PART 1: The Contractor must answer the following three questions:

(i) Is the project on schedule?

(ii) Is the project within budget?

(iii) Is the project free of any areas of concern in which the assistance or guidance of Canada may be required?

Each negative response must be supported with an explanation.

(b) PART 2: A narrative report, brief, yet sufficiently detailed to enable the Technical Authority to evaluate the progress of the Work, containing as a minimum:

(i) A description of the progress of each task and of the Work as a whole during the period of the report. Sufficient sketches, diagrams, photographs, etc., must be included, if necessary, to describe the progress accomplished.

(ii) An explanation of any variation from the work plan.

(iii) A description of trips or conferences connected with the Contract during the period of the report.

(iv) A description of any major equipment purchased or constructed during the period of the report.

ATTACHMENT 1

MANDATORY AND POINT RATED TECHNICAL CRITERIA

1. General information

The proposals MUST contain all relevant information/data for ranking requested in each criterion. Information must be clearly located within the proposition. Proposals will be evaluated solely on its content. No score is given based on assumption on experiences and capabilities of the bidder. Point rated requirements in each criterion that are not clearly addressed, presented, and responded in the proposal will be given a score of ZERO. Any proposal that fails to meet one or more of the mandatory requirements will be deemed non-responsive.

Simply repeating the statements contained in the Technical Work Requirements is not sufficient. The Bidder should explain and demonstrate how it meets the requirements and how the Bidder understands and will carry out the work.

In order to facilitate the evaluation of the proposal, the Bidder should address and present topics in the order of the mandatory requirements and in the order of the point rated requirements, under the same headings. To avoid duplication, the Bidder may refer to different sections of its proposal by identifying specific paragraph and page number, where the subject topic is addressed. Please make sure all relevant information/data for ranking requested in each criterion are clearly presented for ranking, otherwise a score of ZERO will be given.

The evaluation will be based on demonstrated experience (*) and expertise (**) of the company involving in laser technologies for ranging and targeting.

(*) The experience is demonstrated by the number, as well as scope and duration, of projects or activities, related to optics and optronic and laser technologies. The company should include a brief summary of relevant projects and activities indicating the scope of the work undertaken, the methodology and the outcome.

(**) The personnel of the company performing the tasks must be recognized experts in these areas (Please include a resume of all the personnel in the project).

2. MANDATORY CRITERIA

At bid closing time, the Bidder must comply with the following mandatory technical criteria and provide the necessary documentation to support compliance. Any bid which fails to meet the following mandatory technical criteria will be declared non-responsive. Each criterion should be addressed separately.

The bidder must clearly demonstrate at least three-year-experience each in optics, optronic and laser technology.

3. Point Rated Technical Criteria

Listing experience without providing any supporting data to describe where and how such experience was obtained will result in the experience NOT being included for evaluation.

	MAX	MIN
1.0 TECHNICAL PROPOSAL	25	15
1.1 Understanding of objectives and required technical work The bidder should clearly demonstrate that he understands the objectives and specificities of the project. He should also present in details the technical support that he proposes for the conduct of the work and for achieving the objectives. 10 pts: Proof of an excellent understanding of the task objectives and realistic technical solutions. All principal elements are defined and solutions given. 8 pts: Proof of a very good understanding of the task objectives and realistic technical solutions. Almost all principal elements are defined and solutions given. 6 pts: Proof of a good understanding of the task objectives and realistic technical solutions. Most of the principal elements are defined and solutions given. 4 pts: Proof of a limited understanding of the task objectives and realistic technical solutions. Some of the principal elements are defined and solutions given. 0 pts: No understanding of the task objectives and realistic technical solutions. Very few of the principal elements are defined and solutions given.	10	6
1.2 Proposed strategy and methodology The bidder should clearly present the technical approach and the methodology that he proposes. The technical approach and the methodology that are proposed both need to be realistic, relevant and	15	9

directly tied to the required technical work. They should also be complete and realistic.

15 pts: The technical strategy and methodology (along with possible risks) presented is excellent (very concise and complete). All principal elements are defined and solutions given.

12 pts: The technical strategy and methodology (along with possible risks) presented is very good (concise and complete). Almost all principal elements are defined and solutions given.

9 pts: The technical strategy and methodology (along with possible risks) presented is good (concise and complete). Most of the principal elements are defined and solutions given.

6 pts: The technical strategy and methodology (along with possible risks) presented is limited (very concise and complete). Some of the principal elements are defined and solutions given.

3 pts: The technical strategy and methodology (along with possible risks) is not rigorously presented. Very few of the principal elements are defined and solutions given.

2.0. QUALIFICATIONS OF RESOURCES DIRECTLY INVOLVED IN THE PROJECT (EXPERIENCE AND ACADEMIC TRAINING)

60

38

2.1 Years of experience of resources directly involved in the project.

For each of the fields of activity, the bidder **MUST** indicate the name of the resources proposed and their résumés **MUST** be included with the proposal for the purpose of the evaluation, or **ZERO** score will be given. The same resource can be proposed for more than one field of activity.

The bidder **MUST** propose a number of IDENTIFIED resources for EACH domain below, with required experiences CLEARLY PRESENTED IN THE PROPOSAL associated to each domain task, or ZERO score will be given. The number of identified resources required is indicated for each domain. For each domain, the resource proposed will be evaluated separately according to the point allocation as described below. The total point for each domain will be defined by the sum of each individual scoring divided by the number of resources required.

The months experience is defined by the number of months that the proposed resource has worked on projects relevant with the associated criteria items. This could be interpreted as the duration of the project multiplied by the percentage involvement of the resources. For example, Resource "A" spent 25% of the time in a 12-month project relevant to domain (a), Resource "A" is given 3-month of experience in domain (a).

As there are study on optics and optronics, and on laser technology simultaneously, the resource proposed in (b), (c), (d), (e) must not be the same in (f), (g), (h), (i).

The bidder must describe each project as follows:

- Title;

- *Client/company contacts;*
- *Start and end dates;*
- *Brief description;*
- *Involvement and responsibility of the proposed resource within the project*

8

6

(a) Literature survey and analysis

Criteria include, but are not limited to:

- Literature survey in open literatures, patents, commercial sources such as company product information and specifications
- Analysis on the findings including but not limiting to current state-of-the-art designs, performance, advantages and disadvantages in general and specifically regarding to project requirements

Resource requirement : At least two(2) engineers/scientistsPoints allocation

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 60 months experience: **4 points**

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 48 months to 60 months experience: **3 points**

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 36 months to 48 months experience: **2 points**

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 24 months to 36 months experience: **1 points**

- None of the above: **0 point**

4

3

(b) Resource experience on laser range finder technology

Criteria include, but are not limited to:

- Laser range finder principle, and laser range finder detectors, sources, optics and electronics

Resource requirement : At least one (1) engineer or scientistPoints allocation

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 60 months experience: **4 points**

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 48 months to 60 months experience: **3 points**

<p>-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 36 months to 48 months experience: 2 points</p> <p>-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 24 months to 36 months experience: 1 points</p> <p>- None of the above: 0 point</p>	4	3
<p>(c) Resource experience on laser range finder operation and measurement in lab and field</p> <p>Criteria include, but are not limited to:</p> <ul style="list-style-type: none"> - Laser ranging measurement and characterization, laser testing in lab and field experiments, laser phenomenology, i.e. atmospheric and environment effect on laser ranging technology performance 		
<p>Resource requirement : At least one (1) engineer or scientist</p>		
<p><u>Points allocation</u></p>		
<p>-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 60 months experience: 4 points</p> <p>-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 48 months to 60 months experience: 3 points</p> <p>-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 36 months to 48 months experience: 2 points</p> <p>-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 24 months to 36 months experience: 1 points</p> <p>- None of the above: 0 point</p>	4	3
<p>(d) Resource experience on laser scanning technology</p> <p>Criteria include, but are not limited to:</p> <ul style="list-style-type: none"> - Design, development and characterization of laser scanning devices and systems, principle of laser scanning 		
<p>Resource requirement : At least one (1) engineer or scientist</p>		
<p><u>Points allocation</u></p>		
<p>-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 60 months experience: 4 points</p> <p>-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 48 months to 60 months experience: 3 points</p> <p>-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 36 months to 48 months experience: 2 points</p>	4	3

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 24 months to 36 months experience:

1 points

- None of the above: **0 point**

(e) Resource experience on flash ladar technology

Criteria include, but are not limited to:

- Design, develop, characterization and operation of flash ladar systems

Resource requirement : At least one (1) engineer or scientist

Points allocation

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 60 months experience: **4 points**

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 48 months to 60 months experience: **3 points**

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 36 months to 48 months experience: **2 points**

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 24 months to 36 months experience: **1 points**

- None of the above: **0 point**

(f) Resource experience on EO/IR system technology

Criteria include, but are not limited to:

- EO/IR devices and systems, EO/IR system testing and characterization in laboratory and field experiments

Resource requirement : At least two (2) engineers or scientists

Points allocation

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 60 months experience: **4 points**

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 48 months to 60 months experience: **3 points**

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 36 months to 48 months experience: **2 points**

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 24 months to 36 months experience: **1 points**

- None of the above: **0 point**

(g) Resource experience in direct optical viewing technology for human vision systems

8

6

4

2

Criteria include, but are not limited to:

- Optics principle, optical system and human vision system design
- Simulation and optimization of direct optical system for human vision

Resource requirement : At least one (1) engineer or scientist

Points allocation

- with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 60 months experience: **4 points**
- with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 48 months to 60 months experience: **3 points**
- with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 36 months to 48 months experience: **2 points**
- with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 24 months to 36 months experience: **1 points**
- None of the above: **0 point**

4

2

(h) Resource experience in optical design and characterization of direct optics dayscope

Resource requirement : At least one (1) engineer or scientist

Points allocation

- with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 60 months experience: **4 points**
- with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 48 months to 60 months experience: **3 points**
- with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 36 months to 48 months experience: **2 points**
- with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 24 months to 36 months experience: **1 points**
- None of the above: **0 point**

4

2

(i) Resource experience in optronic technology for human vision systems

Criteria include, but are not limited to:

- Optic principle, design and optimization of optronic system for human vision
- Optronic-type viewing device design and optimization for human vision

Resource requirement : At least one (1) engineer or scientist

Points allocation

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 60 months experience: **4 points**
 -with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 48 months to 60 months experience: **3 points**
 -with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 36 months to 48 months experience: **2 points**
 -with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 24 months to 36 months experience: **1 points**
 - None of the above: **0 point**

4

2

(j) Resource experience in targeting task performance study and analysis

Criteria include, but are not limited to:

- Targeting task performance principle
- Working experience with SSCamIP or NvThermIP or equivalent

Resource requirement : At least one (1) engineer or scientistPoints allocation

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 60 months experience: **4 points**
 -with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 48 months to 60 months experience: **3 points**
 -with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 36 months to 48 months experience: **2 points**
 -with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 24 months to 36 months experience: **1 points**
 - None of the above: **0 point**

8

4

(k) Documentation and report**Resource requirement : At least two (2) engineers or scientists**Points allocation

-with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 60 months experience: **4 points**
 -with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 48 months to 60 months experience: **3 points**

4

2

- with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 36 months to 48 months experience: **2 points**
- with a Bachelors degree or higher in Physics or engineering physics or electrical engineering with more than 24 months to 36 months experience: **1 points**
- None of the above: **0 point**

(I) Resource experience in operation of small arm sighting and targeting devices in various field conditions

Criteria include, but are not limited to:

- Operation of small arm sights with small arms to search and track targets
- Operation of small arm sights with small arms to recognise and identify targets
- All of the above under various field conditions (luminosity, obscurants, standoff range)

Resource requirement : At least one (1) technician

Points allocation

- with more than 60 months experience: **4 points**
- with more than 48 months to 60 months experience: **3 points**
- with more than 36 months to 48 months experience : **2 points**
- with more than 24 months to 36 months experience: **1 point**
- 24 months or less experience: **0 point**

	MAX	MIN
3.0 COMPANY'S EXPERIENCE <i>The bidder must describe each project as follows:</i> <ul style="list-style-type: none"> - Title; - Client/company contacts; - Start and end dates; - Brief description; 	25	12
3.1 Experience of the bidder in the field of laser and EO/IR technologies In the last 10 years, the bidder completed: <ul style="list-style-type: none"> - 10 or more projects/contracts in the field of laser and EO/IR technologies: 10 points. - 7 to 9 projects/contracts in the field of laser and EO/IR technologies: 6 points. - 4 to 6 projects/contracts in the field of laser and EO/IR technologies: 4 points. 	10	6

<p>- 2 or 3 projects/contracts in the field of laser and EO/IR technologies: 2 points.</p> <p>- Less than 2 projects/contracts in the field of laser and EO/IR technologies: 0 point.</p> <p>Only projects valued at 20,000.00\$ or more will be considered.</p>		
<p>3.2 Experience of the bidder in the field of optics and optronics</p> <p>In the last 10 years, the bidder completed:</p> <p>- 10 or more projects/contracts in the field of optics and optronics: 10 points.</p> <p>- 7 to 9 projects/contracts in the field of optics and optronics: 6 points.</p> <p>- 4 to 6 projects/contracts in the field of optics and optronics: 4 points.</p> <p>- 2 and 3 projects/contracts in the field of optics and optronics: 2 points.</p> <p>- Less than 2 projects/contracts in the field of optics and optronics: 0 point.</p> <p>Only projects valued at 20,000.00\$ or more will be considered.</p>	10	6
<p>3.3 Experience of the bidder in the field human vision study and human vision system design</p> <p>In the last 10 years, the bidder completed:</p> <p>- 5 or more projects/contracts in the field of human vision study and human vision system design: 5 points.</p> <p>- 2 to 4 projects/contracts in the field of human vision study and human vision system design: 3 points.</p> <p>- Less than 2 projects/contracts in the field of human vision study and human vision design: 0 point.</p> <p>Only projects valued at 20,000.00\$ or more will be considered.</p>	5	na
TOTAL (1-3)	110	65

ANNEX A

STATEMENT OF WORK

1. General

1.1 Title

Study of optronic and laser technologies for targeting and ranging requirement for small arms

1.2 Objective

The objectives of this work are:

1. to perform a study on existing and potential laser technologies for ranging and targeting capability for small arms. The work will be divided into two sections: (i) Existing state-of-the-art laser ranging and targeting technologies for small arms; (ii) Potential laser technologies such as the traditional one dimensional, fix beam, aim-and-shoot to one or two dimensional laser scanning to two dimensional flash ladar. Specification, capability and limitation on ranging and targeting up to 600m standoff distance shall be analysed.
2. to perform a review on existing literature and furthermore to perform studies and analysis to determine targeting task requirement and performance with the use of direct optics and optronic-type or pixelated, electro-optical viewing devices in small arm operations. The first goal is to determine both direct optic and optronic-type viewing devices for their performance under various parameters and field situations; and secondly, to answer the ultimate question whether sighting and targeting performance of optronic-type viewing technologies is comparable, as good as, or better than that of direct optic viewing technology. From the latter, capabilities and limits will be determined and quantitatively compared with both technologies. Due to the facts that both technologies have distinct characteristics and also these viewing devices are to produce the best viewable image to be perceived by human eyes which have direct implication on sighting and targeting performance, study and analysis on requirement and performance will make references and interpretations to human eye characteristics and working principle regarding sighting and targeting in small arm operations.

As the contract will be used to provide knowledge on existing optics, optronic and laser technology for targeting and ranging, it is critical that the bidder is not a manufacturer, salesman or retailer of such equipment. The bidder must confirm that he/she does not own business of manufacturer(s) of optics, optronic and laser equipment or equipment for optics and optronic and laser ranging applications, and sales of such equipment is not the main line of his business.

1.3 Background

Under the mandate of Future Small Arms Research (FSAR) project, DRDC will examine existing and future technologies for small arm capabilities with the objective of identifying technologies which could increase shot placement accuracy and reduce engagement time. These technologies include weapon, ammunition, optics and electro-optics. A series of studies on these subjects will be performed, some of which may involve literature survey, simulation and modelling, and experiments with modules and systems in lab and field, and user trials, etc.

This work, under Objective (i), is to provide an expert analysis on existing as well as potential laser technologies for small arms. Laser may be used in general for target illumination, aiming, ranging and designation. The laser power, laser wavelength, optics and associated laser detectors are selected based on applications. In small arms, standoff distance of up to 600m is sufficient.

In this work, existing laser technologies for ranging and targeting will be first looked at. This includes all information of specification and performance of a few representative, existing devices/systems for small arms. These devices/systems may be stand alone laser devices or sighting systems with integrated laser for ranging such as the XM29 TA/FC system or Aimpoint BR8 sight. Required parameters are, but not limited to range accuracy, pulse energy and width, time-to-range, laser wavelength, beam divergence, power consumption, weight and size.

Besides conventional, single beam, aim-and-lase laser ranging, technologies such as laser scanning and flash ladar will be examined in this work. The goal is to explore feasibility and potential operational advantage of determining target range without the aiming step in which the target will be recognised with the help of another technology integrated in the weapon system. In this case, the laser beam is steered based on the provided target cue to a specific position where the target is located. The beam steering could be realized by mirror steering devices (e.g. Ball Electronics) or displacement of micro-optics or micro-mirrors. This non-aiming ranging could also be accomplished with the use of two dimensional flash ladar technology. The work will include descriptions of a few representative laser beam steering and flash ladar technologies. Then, required beam steering device parameters are, but not limited to steering accuracy and repeatability, steering resolution, power consumption, weight and size. For flash ladar, required parameters are power consumption, size and weight, effective range, time-to-range, laser wavelength, range accuracy, pulse energy and width, beam divergence. As the laser ranging device in this case is not necessarily pointed toward the target, the angle of incident laser beam and the returned beam will have an impact on energy collection of the returned beam or the signal-to-noise ratio. An analysis of capability and limitation related to this issue must be performed.

An option year is included in this work should some of the technologies are deemed promising by DRDC for more detailed study.

Regarding Objective (ii), for decades, sighting and targeting task in small arms is accomplished with the use of "Mark One Eyeball" possibly assisted with the use of iron sight or equivalent, and with other magnifying or non-magnifying direct optical viewing devices. It is known that nothing can beat a piece of glass in term of viewable image clarity by human eyes. Another advantage is that direct optical viewing devices can operate without power and the risk of malfunction is extremely low. On the other hand, with the maturing of optronic imaging technologies, we are now capable of producing sharp, viewable image during daytime, and more importantly night time and in battlefield through smoke and other obscurants which is not possible with the use of direct optical viewing devices. Another advantage of optronic-type viewing devices is that the electronic information can be digitized and be stored and transmitted for sharing and analysis. Pre-processing and post-processing technique on the digitized information can also be used to enhance the value of the information. As a result, some of these optronic-type viewing devices have been deployed and widely used by military such as infrared gun sights. However, due to the many advantages and accumulated user experience, and the fact that the viewable image resolution of pixelated, optronic-type devices is still lower than what human eyes can perceive, direct optical viewing devices for small arms are still the most important piece of equipment. At least in the near future, all soldiers are carrying one direct optical viewing device and many of them will carry a second optronic-type viewing device. In FASR project regarding sighting and targeting task in small arms, we would like to study the performance of direct optical and optronic-type viewing devices and furthermore to explore the feasibility of replacing the direct optical with optronic-type viewing device.

This work is to provide an expert analysis through literature survey and studies on existing direct optics and optronic-type viewing technologies for small arms in order to determine targeting task performance and characteristics in association to parameters and field conditions such as, but not limited to, target type (man and vehicle) and state (static or moving), background luminance (plain daylight vs artificial light vs night time), lighting conditions of scenery (e.g. target positioned next to or in front of strong light source such as street light or the Sun), dynamic range response of human eye and that of viewing image, target contrast, optical F-number, diffraction limit and spatial resolution, sight reticules and image plane viewing issue, alignment/position of eye with respect to exit pupil, eye pupil and exit pupil size, target apparent size with respect to total image view, magnification effect (increased subtended angle at the eye vs blur and lower intensity or contrast), frame rate with respect to human eye response and target moving speed, choices of detector technology, electronic zoom, spectral bands, and target standoff range. The targeting task performance is mainly related to target searching, detection, tracking, recognition (man in uniform or in civilian clothing; or armed or unarmed man, etc) and identification (personnel identification by facial feature or personal profile) under various field conditions. The well known Johnson Criteria can be used to estimate the target task performance, however, other model or criteria can be suggested and be used in the analysis as long as this model is used for both direct optics and optronic-type viewing devices. In small arms, standoff distance out to 600m is sufficient.

Since this is the beginning of a series of studies on sighting requirement in FSAR, DRDC would like to receive reports which contain all detailed, key information regarding sighting technologies in small arms. In order to achieve the objective of this work, DRDC is looking for a contractor to implement the following plan. First, a brief literature survey based on a few key publications is performed to gather information and in particular important parameters on small arms sighting and targeting with respect to human eye characteristics and working principle. Then, at least two of direct optics dayscope for small arms are selected for further analysis for sighting and targeting performance with respect to their sight characteristics and parameters. These two dayscopes should be the in-service Elcan C79 dayscope (3.4x) and also in-service EOTech holographic sight (1x). Since this is a study for small arm technology, no long range, high magnification dayscopes will not be included here for analysis.

For optronic-type viewing technologies, visible sensor (such as CCD or CMOS) with highest resolution possible and frame rate of at least 30Hz should be selected for the study. The reason for choosing high resolution sensors is that, unlike direct optic viewing device, target detail is proportional to the spatial resolution of a pixelated, optronic sensor. A high resolution sensor will provide improved target detail for sighting and targeting tasks (e.g. recognition and identification). Three types of visible camera technologies are of DRDC's interest in this work: conventional camera, high dynamic range camera and high frame rate camera. DRDC would like to determine through analysis and study effects of resolution, dynamic range and frame rate to sighting and targeting in small arms, and then these results will be compared to those of direct optic viewing devices, which carry no such limits on resolution, dynamic range and frame rate. This is to provide a "snapshot" of existing optronic technologies in order to answer this question with quantitative data and facts: Can we replace direct optic viewing devices with an optronic one for small arm viewing and targeting devices? If not, what are the limiting factors? For high dynamic range camera, DRDC suggested the UI-5120SE-M from IDS Inc. For high frame rate cameras, DRDC suggested the VC-2MC-M/C 340 and VC-4MC-M/C 180 both are from Vieworks Inc. DRDC has purchased these cameras and preliminary experimental work on these cameras will be first performed by DRDC personnel and then by the contractor in an optional subsequent task to complete the evaluation. As a result, analytical results could be compared to experimental results.

Other spectral bands are of interest in this work. These are shortwave infrared (SWIR) and longwave infrared (LWIR). It is noted that the resolution of these non-visible viewing technologies is usually lower than that of visible counterpart (SWIR at 1280 by 1024 and uncooled LWIR at 1024 by 768). Nevertheless, it is expected that the resolution of these technologies will continue to increase in the future and therefore it is pertinent to this work. The analysis will be very similar to that of visible optronic sensors.

For all optronic cameras, since a display is needed to present the image for viewing, an assumption is made here that the display image is with the same resolution and is running at the same frame rate as those of the imaging devices. It is noted that high resolution, high frame rate microdisplays are available today such as one color microdisplay with resolution at 1300 by 1244 at 60Hz from MICROOLED Inc. DRDC has purchased these microdisplays for this work.

After reviewing key sighting and targeting requirement and characteristics, and also after an extensive analytical work on direct optic and optronic-type viewing devices, a performance matrix will be established for direct optic and optronic-type viewing devices in association to various conditions (lighting, target type and state, standoff range, etc as stated earlier). The performance matrix should include not only analysis on direct optic and on optronic-type viewing devices but also analysis and comparison between the two.

Besides literature review and survey, analytical work and optical modeling will be performed. This analysis includes, but is not limited to, Modulator Transfer Function (MTF) of all levels including eye MTF as a function of light level, System Contrast Transfer Function (CTF), cycles resolved on target, and finally task performance range.

An option period is included in this contract. The work involved in the option period may include further analytical and experimental work on procured direct optic and optronic-type viewing devices, and as well on additionally procured electro-optical devices.

1.4 Acronymes

CCD	Charge-coupled device
CMOS	Complementary metal–oxide–semiconductor
SWIR	Short Wave Infrared
LWIR	Long wave infrared

2. APPLICABLE DOCUMENTS (references)

None.

3. SCOPE OF THE WORK

PHASE 1

Objective 1

Task 1: Specification, capability and limitation of existing laser ranging and targeting technologies for small arms

- Perform a survey of existing laser ranging devices and products for small arms
- Collect information regarding makes, models and technical specifications of representative laser ranging devices and products, based on required specifications and parameters. These are specifications and parameters on, but not limited to:
 - range accuracy,
 - pulse energy and width,
 - time-to-range,
 - laser wavelength;
 - beam divergence;
 - power consumption;
 - weight and size.

Solicitation No. - N° de l'invitation

W7701-135588/A

Amd. No. - N° de la modif.

File No. - N° du dossier

QCL-2-35502

Buyer ID - Id de l'acheteur

qc1002

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

W7701-13-5588

CCC No./N° CCC - FMS No/ N° VME

Some of the laser devices or modules may be procured and tested by DRDC. In the event that the laser devices or modules are procured, the test results will be provided to contractor to be included in the study and analysis.

Objective 2

Task 2: Literature survey on sighting and targeting requirement and performance for small arms with respect to human eye working principle

- Perform a survey, identify, describe and interpret key characteristics of human eye working principle for sighting and targeting in association to viewing through a small arm viewing device. These are, but not limited to:

- spatial resolution (or angular resolution) limits;
- modulation transfer function or MTF;
- contrast sensitivity;
- magnification limit;
- pupil dimension;
- focusing;
- response to static and dynamic objects;
- dynamic range and response time to static;
- change of lighting.

- Perform a survey, identify, describe and interpret key characteristics of small arm sighting and targeting devices in association to human eye working principle. These are, but not limited to:

- magnification and field-of-view;
- entrance and exit pupil;
- reticule and its location of image plane;
- eye relief and viewing distance.

In additional to these factors, in the case of optronic-type viewing devices:

- displaying pixel size and resolution requirement;
- image contrast;
- display frame rate;
- displayed image artefacts in associated with sensor integration time in a dynamic scenery;
- electronic zoom and viewing distance.

PHASE 2 (Optional period)

Objective 1

Task 3: Study of potential laser ranging and targeting technologies for small arms

3.1 New laser devices and technologies

- Perform a survey of new and emerging laser devices, electronics, optics and detectors potentially for low power, compact weight laser ranging devices for small arm operations.

- Collect information regarding makes, models and technical specifications of these devices based on required specifications and parameters. These are specifications and parameters on, but not limited to:

- range accuracy;
- pulse energy and width;
- time-to-range;
- laser wavelength;

- beam divergence;
- power consumption;
- weight and size.

Some of the laser devices or modules may be procured and tested by DRDC. In the event that the laser devices or modules are procured, the test results will be provided to contractor to be included in the study and analysis.

3.2 Beam steering technologies

- Perform a survey and description of principle of laser beam steering technologies, e.g. macroscopic and microscopic mirror device/module, micro-optic displacement, etc.
- Study and analyse beam steering technology based on micro-mirror specification regarding, but not limited to:
 - steering accuracy and repeatability;
 - steering resolution;
 - stability;
 - transient response;
 - time-to-steered position;
 - beam profile;
 - power consumption;
 - weight and size and its applicability to small arm operations

Some of the laser devices or modules may be procured and tested by DRDC. In the event that the laser devices or modules are procured, the test results will be provided to contractor to be included in the study and analysis.

3.3 Flash ladar

- Perform a survey of existing flash ladar modules/systems suitable for small arm operations.
- Collect information regarding makes, models and technical specifications of representative flash ladar modules/systems, based on required specification and parameters. These are specifications and parameters on, but not limited to:
 - power consumption;
 - size and weight;
 - effective range;
 - time-to-range;
 - laser wavelength;
 - range accuracy;
 - pulse energy and width;
 - beam divergence

Some of the laser devices or modules may be procured and tested by DRDC. In the event that the laser devices or modules are procured, the test results will be provided to contractor to be included in the study and analysis.

3.4 Analysis of capability and limitation related to beam incident angle, beam return angle and signal-to-noise for laser ranging application

- Define the following studied parameters:

- laser incident energy/power;
- angle of incidence;
- target type (size, laser cross section, reflection and scattering);
- standoff distance;
- return beam power;
- beam receiving optics;
- detector sensitivity;
- laser ranging electronics;
- time-to-range;
- required signal-to-noise ratio;
- range accuracy.

- Analyse specification and limitation of possible configurations for small arms for non aim-and-lase target ranging, with reference to field-of-view of small arm weapon sight (e.g. wide field-of-view at 8 to 10 degrees and narrow field-of-view at 2 to 3 degrees),

Task 4: Test and evaluation of procured laser devices

4.1 Laser ranging devices

- Perform laboratory and field experiments to determine laser device performance. These performances are, but not limited to:

- range accuracy;
- pulse energy and width;
- time-to-range;
- laser wavelength;
- beam divergence and power consumption.

- Perform laboratory and field experiments to determine the capability and limitations with target consideration. These capabilities and limitations are, but not limit to:

- laser incident energy/power;
- angle of incidence;
- target type (size, laser cross section, reflection and scattering);
- standoff distance;
- return beam power;
- beam receiving optics;
- detector sensitivity;
- laser ranging electronics;
- time-to-range;
- required signal-to-noise ratio;
- range accuracy.

4.2 Laser beam steering devices

- Perform laboratory and field experiments to determine laser beam steering device performance. These performances are, but not limited to:

- steering accuracy and repeatability;
- steering resolution;
- stability;
- transient response;

- time-to-steered position;
 - beam profile;
 - power consumption, and its applicability to small arm operations.
- Perform laboratory and field experiments to determine capability and limitations with target consideration. These capabilities and limitations are, but not limit to:
- laser incident energy/power;
 - angle of incidence;
 - target type (size, laser cross section, reflection and scattering);
 - standoff distance;
 - return beam power;
 - beam receiving optics;
 - detector sensitivity;
 - laser ranging electronics;
 - time-to-range;
 - required signal-to-noise ratio;
 - range accuracy.

4.3 Test and evaluation of flash ladar devices

- Perform laboratory and field experiments to determine flash ladar modules/systems performance. These performances are, but not limited to:
- power consumption;
 - effective range;
 - time-to-range;
 - laser wavelength;
 - range accuracy;
 - pulse energy and width;
 - beam divergence
- Perform laboratory and field experiments to determine capability and limitations with target consideration. These capabilities and limitations are, but not limit to:
- laser incident energy/power;
 - angle of incidence;
 - target type (size, laser cross section, reflection and scattering);
 - standoff distance;
 - return beam power;
 - beam receiving optics;
 - detector sensitivity;
 - laser ranging electronics;
 - time-to-range;
 - required signal-to-noise ratio;
 - range accuracy

Objective 2

Task 5: Study of sighting and targeting requirement and performance of in-service direct optic viewing devices

- Identify, describe and interpret key characteristics of Elcan C79 dayscope and EO Tech holographic sight.

-
- Perform a survey, estimate and model targeting performance (target searching, detection, tracking, recognition and identification) in association to human eye working principle of the two dayscopes under various parameters and field conditions (lighting, target type and state, standoff distance, etc.).

Task 6: Study of sighting and targeting requirement and performance of optronic-type viewing devices

- Select a conventional visible optronic-type viewing device.
- Describe and interpret key characteristics of the selected visible viewing device, and also those of the high dynamic range camera and the two high frame cameras suggested by DRDC with respect to human eye characteristics.
- With realistic assumptions on FOV, F-number, etc, estimate and model of targeting performance (target searching, detection, tracking, recognition and identification) in association to human eye working principle of the three visible optronic-type viewing devices under various parameters and field conditions (lighting, target type and state, standoff distance, etc.).
- Select a SWIR and an uncooled LWIR optronic-type viewing devices.
- Describe and interpret key characteristics of the selected viewing devices with respect to human eye characteristics.
- Estimate and model of targeting performance (target searching, detection, tracking, recognition and identification) in association to human eye working principle of the SWIR and LWIR optronic-type viewing devices under various parameters and field conditions (lighting, target type and state, standoff distance, etc.).

Task 7: Development of a targeting performance matrix of direct optic and optronic-type viewing devices

- Identify, describe and interpret key parameters of the performance matrix for direct optic and optronic-type viewing devices.
- Analyse results in Task 3 and 4, then design and construct a performance matrix.
- Describe and interpret targeting performance, on direct optic and optronic-type individually then comparison of both, based on the performance matrix.

Task 8: Test and evaluation of procured optronic-type viewing devices

- Perform laboratory and field experiments to determine procured optronic-type viewing device performance. These performances are, but not limit to:
 - spatial resolution (or angular resolution) limits;
 - modulation transfer function or MTF;
 - contrast sensitivity;
 - magnification limit;
 - pupil dimension;

- focusing;
- response to static and dynamic objects;
- dynamic range and response time to static and change of lighting;
- magnification and field-of-view;
- entrance and exit pupil;
- reticule and its location of image plane;
- eye relief and viewing distance;
- displaying pixel size and resolution requirement;
- image contrast;
- display frame rate;
- displayed image artefacts in associated with sensor integration time in a dynamic scenery;
- electronic zoom and viewing distance.

Task 9: Test and evaluation performance of in-service direct optic viewing devices

- Identify, describe and interpret key characteristics of Elcan C79 dayscope and EOTech holographic sight.
- Perform a survey, estimate and model targeting performance (target searching, detection, tracking, recognition and identification) in association to human eye working principle of the two dayscopes under various parameters and field conditions (lighting, target type and state, standoff distance, etc.).

Task 10: Result analysis based on targeting performance matrix

- Identify, analyse and enter data and parameters into performance matrix for direct optic and optronic-type viewing devices.
- Analyse results of direct optic and optronic-type individually then comparison of both.

4. REPORTS AND OTHER DELIVERABLES

Phase 1

Objective 1

Task 1

- The survey results on existing laser ranging technologies including makes, models, technical specification, and range accuracy, pulse energy and width, time-to-range, laser wavelength, beam divergence, power consumption, weight and size.

Objective 2

Task 2:

- Results of the survey including identification, description and interpretation of key characteristics of human eye working principle for sighting and targeting in association to viewing through a small arm viewing device.

- Results of the survey including identification, description and interpretation of key characteristics of small arm sighting and targeting devices in association to human eye working principle.

Deliverables for Phase 1:

- A final report summarizing all the results gathered in objective 1 of Phase 1.
- A final report summarizing all the results gathered in objective 2 of Phase 1.

All reports must be provided in two paper copies as well as one electronic copy in Adobe PDF or MSWord. The reports may be written in either French or English.

Phase 2 (Optional tasks)

Objective 1

Task 3:

3.1 New laser devices and technologies

- The survey results on new and emerging laser technologies for small arm operations including makes, models and technical specification of these devices including range accuracy, pulse energy and width, time-to-range, laser wavelength, beam divergence, power consumption, weight and size.

3.2 Beam steering technologies

- The survey results on laser beam steering technologies including operation principle and specification.
- Analysis results of beam steering technology based on micro-mirror including steering accuracy and repeatability, steering resolution, stability, transient response, time-to-steered position, beam profile (related to mirror flatness), power consumption, weight and size and its applicability to small arm operations.

3.3 Flash ladar

- The survey results on flash ladar technologies including makes, models and technical specification, and power consumption, size and weight, effective range, time-to-range, laser wavelength, range accuracy, pulse energy and width, beam divergence.

3.4 Analysis of capability and limitation related to beam incident angle, beam return angle and signal-to-noise for laser ranging application.

- Definition of all relevant parameters and analysis results, specifications and limitations for non aim-and-lase target ranging. These parameters are, but not limit to, laser incident energy/power, angle of incidence, target type (size, laser cross section, reflection and scattering), standoff distance, return beam power, beam receiving optics, detector sensitivity, laser ranging electronics, time-to-range, required signal-to-noise ratio, range accuracy.

Task 4

4.1 Laser ranging devices

- Performance results including range accuracy, pulse energy and width, time-to-range, laser wavelength, beam divergence and power consumption
- Capability and limitation results with target consideration of laser incident energy/power, angle of incidence, target type (size, laser cross section, reflection and scattering), standoff distance, return beam power, beam receiving optics, detector sensitivity, laser ranging electronics, time-to-range, required signal-to-noise ratio, range accuracy

4.2 Laser beam steering devices

- Performance results including steering accuracy and repeatability, steering resolution, stability, transient response, time-to-steered position, beam profile and power consumption, and its applicability to small arm operations
- Performance results with target consideration including laser incident energy/power, angle of incidence, target type (size, laser cross section, reflection and scattering), standoff distance, return beam power, beam receiving optics, detector sensitivity, laser ranging electronics, time-to-range, required signal-to-noise ratio, range accuracy

4.3 Test and evaluation of flash ladar devices

- Performance results including power consumption, effective range, time-to-range, laser wavelength, range accuracy, pulse energy and width, beam divergence
- Performance results with target consideration including laser incident energy/power, angle of incidence, target type (size, laser cross section, reflection and scattering), standoff distance, return beam power, beam receiving optics, detector sensitivity, laser ranging electronics, time-to-range, required signal-to-noise ratio, range accuracy

Objective 2

Task 5

- Results including identification, description and interpretation of key characteristics of Elcan C79 dayscope and EOTech holographic sight.
- Results of survey, estimation, modeling and analysis of targeting performance in association to human eye working principle of the two dayscopes under various parameters and field conditions.

Task 6

- Results of key characteristics of the selected visible viewing device, and also those of the high dynamic range camera and the two high frame cameras suggested by DRDC with respect to human eye characteristics.
- Results of estimation, modeling and analysis of targeting performance in association to human eye working principle of the three visible optronic-type viewing devices under various parameters and field conditions.

- Results of key characteristics of the selected SWIR and an uncooled LWIR optronic-type viewing devices with respect to human eye characteristics.

- Results of estimation, modeling and analysis of targeting performance in association to human eye working principle of the SWIR and LWIR optronic-type viewing devices under various parameters and field conditions.

Task 7

- Results of key parameters of the performance matrix for direct optic and optronic-type viewing devices.

- The targeting performance matrix of direct optic and optronic-type viewing devices under various parameters and field conditions.

- Results of targeting performance, on direct optic and optronic-type individually then comparison of both, based on the performance matrix.

Task 8

- Performance results including spatial resolution (or angular resolution) limits, modulation transfer function or MTF, contrast sensitivity, magnification limit, pupil dimension, focusing, response to static and dynamic objects, dynamic range and response time to static and change of lighting, magnification and field-of-view, entrance and exit pupil, reticule and its location of image plane, eye relief and viewing distance, displaying pixel size and resolution requirement, image contrast, display frame rate, displayed image artefacts in association with sensor integration time in a dynamic scenery, electronic zoom and viewing distance.

Task 9

- Key characteristics of Elcan C79 dayscope and EOTech holographic sight and performance results including targeting performance (target searching, detection, tracking, recognition and identification) in association to human eye working principle of the two dayscopes under various parameters and field conditions (lighting, target type and state, standoff distance, etc.).

Task 10

- Complete performance matrix and performance analysis of direct optic and optronic-type viewing devices.

Other Deliverables for Phase 2:

- A report at the conclusion of each task in Phase 2.
- A final report summarizing all the results gathered in objective 1 of Phase 2.
- A final report summarizing all the results gathered in objective 2 of Phase 2.

All reports must be provided in two paper copies as well as one electronic copy in Adobe PDF or MSWord. The reports may be written in either French or English.

4. Publications

Any manuscript for publication in magazines, newspapers or other, including presentation summaries or other types of publication, must be submitted to the Technical Authority for revision and approval at least ninety (90) days before the date of the presentation or publication. An explicit reference regarding federal government funding must be included, and it must be clearly mentioned that the content is the authors' responsibility. The Technical Authority will provide a written objection if there are specific elements (e.g. audience) that are not in the federal government's best interests. If the Technical Authority objects in writing, he/she shall send the written objection to the organization responsible for publication (the newspaper or conference).

5. MEETINGS

One kickoff meeting will be held at the beginning of the contract. One or two meetings during each task will also be held (ex: one during the task and one at the end of the task). The meetings can be held on-site or off-site, or through teleconference.

6. GOVERNMENT SUPPLIED MATERIAL (GSM)

- Technical reports of INO beam steering technology
- If applicable, test results of electro-optical viewing devices and laser devices or modules from DRDC

7. GOVERNMENT FURNISHED EQUIPMENT (GFE)

N/A

8. WORK LOCATION

At the contractor's location or at DRDC Valcartier, 2459 boul. Pie-XI North, Quebec, QC.

ANNEX B**BASIS OF PAYMENT for Phase 2****1. LABOUR:** at the following firm rates**CATEGORY (OR NAME)****FIRM HOURLY RATE**

 etc.

\$ _____
 \$ _____

Est.: \$ _____**2. EQUIPMENT:** at laid down cost without markup**Est.: \$** _____**3. TRAVEL AND LIVING EXPENSES:****Est.: \$** _____

(a) Canada will not accept any travel and living expenses incurred by the Contractor in the performance of the Work, for:

(i) services provided within the Québec City Region (including Defence Research and Development Canada, Valcartier facility), and

(ii) any travel between the Contractor's place of business and the Québec City Region (including Defence Research and Development Canada, Valcartier facility).

(b) For services to be provided outside the Québec City Region, the Contractor 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 the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the Treasury Board Travel Directive (http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/td-dv_e.asp), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees".

(c) Canada will not accept any travel and living expenses incurred by the Contractor as a consequence of any relocation of personnel required to satisfy the terms of this Contract.

(d) All travel must have prior authorization of the Technical Authority. All payments are subject to government audit.

Est.: \$ _____**6. SUBCONTRACTS:** at actual cost without markup
(Identify subcontractors, if applicable.)**Est.: \$** _____**7. OTHER DIRECT CHARGES:** at actual cost without markup
(Specify what categories of direct charges.)**Est.: \$** _____

Solicitation No. - N° de l'invitation

W7701-135588/A

Amd. No. - N° de la modif.

File No. - N° du dossier

QCL-2-35502

Buyer ID - Id de l'acheteur

qc1002

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

W7701-13-5588

CCC No./N° CCC - FMS No/ N° VME

Estimated Cost to a Limitation of Expenditure: \$ _____
(GST/HST extra)

With the exception of the firm rate(s) and price(s), the amounts shown in the various items specified above are estimates only. Minor changes to these estimates will be accepted for billing purposes as the Work proceeds, provided that these changes have the prior approval of the Technical Authority, and provided that the estimated cost does not exceed the aforementioned Limitation of Expenditure.

Solicitation No. - N° de l'invitation

W7701-135588/A

Amd. No. - N° de la modif.

File No. - N° du dossier

QCL-2-35502

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qc1002

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ANNEX C

SECURITY REQUIREMENTS CHECK LIST

ANNEX "X"**CONTRACTOR DISCLOSURE OF FOREGROUND INFORMATION**

Please see reference applicable in your contract to look into **Article 1 - Interpretation of 2040 General Conditions** to obtain the complete definition of the term Foreground Information and thus to help you to determine the information which must be revealed. <http://sacc.pwgsc.gc.ca/sacc/query-e.jsp>.

The Contractor shall respond to the following questions:

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 summarise 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)



Government of Canada
Gouvernement du Canada

ANNEX C

Contract Number / Numéro du contrat

W7701-135588

Security Classification / Classification de sécurité
UNCLASSIFIED

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

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE		
1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine DND		2. Branch or Directorate / Direction générale ou Direction DRDC Valcartier
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 Study of optronic and laser technologies for targeting and ranging requirement for small arms		
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?		<input type="checkbox"/> No / Non <input checked="" type="checkbox"/> Yes / Oui
(Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)		
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 checked="" type="checkbox"/> SM		
Restricted to: / Limité à:	Restricted to: / Limité à:	Restricted to: / Limité à:
Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:
Embedded Contractors SM w/access to Controlled Goods.		
7. c) Level of information / Niveau d'information		
PROTECTED A / PROTÉGÉ A <input type="checkbox"/>	NATO UNCLASSIFIED <input type="checkbox"/>	PROTECTED A / PROTÉGÉ A <input type="checkbox"/>
PROTECTED B / PROTÉGÉ B <input checked="" type="checkbox"/>	NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED B / PROTÉGÉ B <input type="checkbox"/>
PROTECTED C / PROTÉGÉ C <input type="checkbox"/>	NATO RESTRICTED <input type="checkbox"/>	PROTECTED C / PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL / CONFIDENTIEL <input type="checkbox"/>	NATO DIFFUSION RESTREINTE <input type="checkbox"/>	CONFIDENTIAL / CONFIDENTIEL <input type="checkbox"/>
SECRET / SECRET <input checked="" type="checkbox"/>	NATO CONFIDENTIAL <input type="checkbox"/>	SECRET / SECRET <input type="checkbox"/>
TOP SECRET / TRÈS SECRET <input type="checkbox"/>	NATO SECRET <input type="checkbox"/>	TOP SECRET / TRÈS SECRET <input type="checkbox"/>
TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>	NATO COSMIC TOP SECRET <input type="checkbox"/>	TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>
	NATO COSMIC TRÈS SECRET <input type="checkbox"/>	

TBS/SCT 350-103(2004/12)

Security Classification / Classification de sécurité
UNCLASSIFIED

Canada



Government of 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 ☐ Yes
Non 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 ☐ Yes
Non Oui

Short Title(s) of material / Titre(s) abrégé(s) du matériel :

Document Number / Numéro du document :

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

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

☐ RELIABILITY STATUS
COTE DE FIABILITÉ

☐ CONFIDENTIAL
CONFIDENTIEL

☒ SECRET
SECRET

☐ TOP SECRET
TRÈS SECRET

☐ TOP SECRET - SIGINT
TRÈS SECRET - SIGINT

☐ NATO CONFIDENTIAL
NATO CONFIDENTIEL

☐ NATO SECRET
NATO SECRET

☐ COSMIC TOP SECRET
COSMIC TRÈS SECRET

☐ SITE ACCESS
ACCÈS AUX EMPLACEMENTS

Special comments:

Commentaires spéciaux :

Embedded contractor

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 ☒ Yes
Non Oui

If Yes, will unscreened personnel be escorted?

Dans l'affirmative, le personnel en question sera-t-il escorté? ☐ No ☒ Yes
Non 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 ☐ Yes
Non 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 ☐ Yes
Non 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 ☐ Yes
Non 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 ☐ Yes
Non 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 ☐ Yes
Non Oui

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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 CONFIDENTIEL	SECRET	TOP SECRET TRÈS SECRET	NATO RESTRICTED NATO DIFFUSION RESTREINTE	NATO CONFIDENTIAL	NATO SECRET	COSMIC TOP SECRET COSMIC TRÈS SECRET	PROTECTED PROTÉGÉ			CONFIDENTIAL	SECRET	TOP SECRET TRÈS SECRET
											A	B	C			
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).



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Contract Number / Numéro du contrat

W7701-135588

Security Classification / Classification de sécurité
UNCLASSIFIED

PART D - AUTHORIZATION / PARTIE D - AUTORISATION

13. Organization Project Authority / Chargé de projet de l'organisme

Name (print) - Nom (en lettres moulées)

Phillips Laou

Title - Titre

Defence Scientist

Signature

Telephone No. - N° de téléphone
418-844-4000 x.4218

Facsimile No. - N° de télécopieur
418-844-4458

E-mail address - Adresse courriel
philips.laou@drdc-rddc.gc.ca

Date

November 2, 2012

14. Organization Security Authority / Responsable de la sécurité de l'organisme

Name (print) - Nom (en lettres moulées)

Sasha Medjovic - OR MP GP HQ - Industrial Security
Senior Security Analyst

Signature

Telephone No. - N° de téléphone

Facsimile No. - N° de télécopieur

Tel: 613-949-1066 / Fax: 613-949-1069

E-mail: sasha.medjovic@forces.gc.ca

E-mail address - Adresse courriel

Date

2012-11-13

15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached?

Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes?

☐ No
Non ☒ Yes
Oui

16. Procurement Officer / Agent d'approvisionnement

Name (print) - Nom (en lettres moulées)

Title - Titre

Signature

Telephone No. - N° de téléphone

Facsimile No. - N° de télécopieur

E-mail address - Adresse courriel

Date

17. Contracting Security Authority / Autorité contractante en matière de sécurité

Name (print) - Nom (en lettres moulées)

Anna Kulycka

Title - Titre

Contract Secur.
OSPREY

Signature

Telephone No. - N° de téléphone

613-9571258

Facsimile No. - N° de télécopieur

613-9544171

E-mail address - Adresse courriel

anna.kulycka@

Date

Nov 19, 2012

pw6sc.jp.ca