

**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:**
**Bid Receiving - PWGSC / Réception des
soumissions - TPSGC**
11 Laurier St. / 11, rue Laurier
Place du Portage , Phase III
Core 0A1 / Noyau 0A1
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

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

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

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

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

Comments - Commentaires

Title - Sujet DETECTION AND IMAGING	
Solicitation No. - N° de l'invitation W7714-125466/A	Date 2012-03-28
Client Reference No. - N° de référence du client W7714-125466	
GETS Reference No. - N° de référence de SEAG PW-\$\$\$V-054-24110	
File No. - N° de dossier 054sv.W7714-125466	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2012-04-26	
Time Zone Fuseau horaire Eastern Daylight Saving Time EDT	
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: Brault, Laurie	Buyer Id - Id de l'acheteur 054sv
Telephone No. - N° de téléphone (819) 956-1378 ()	FAX No. - N° de FAX (819) 997-2229
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Department of National Defence Research and Development Canada Bldg 29 Receiving, 3701 Carling Ave Ottawa, ON K1A 0Z4	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address
**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution
Science Procurement Directorate/Direction de l'acquisition
de travaux scientifiques
11C1, Phase III
Place du Portage
11 Laurier St. / 11, rue Laurier
Gatineau, Québec K1A 0S5

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

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List of Attachments:

- Attachment 1 Financial Bid Presentation Sheet
- Attachment 2 Mandatory and Point Rated Technical Criteria
- Attachment 3 Certifications Precedent to Contract Award

List of Annexes:

- Annex A Requirement
- Annex B Basis of Payment
- Annex C Non-disclosure Agreement
- Annex D Department of National Defence (DND) 626 Task Authorization Form

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, if applicable, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 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 Requirement, Basis of Payment, Non-disclosure Agreement and DND 626 Task Authorization Form.

2. Summary

The Department of National Defence has a requirement for the provision of support services on an "as and when requested" basis to support the Defence Research and Development Canada (DRDC) in radar signal and image processing using adaptive time-frequency based techniques, decomposition techniques, and higher-order ambiguity functions for the detection and imaging of low observable maneuverings and accelerated targets in the littoral environments.

The Work to be performed must be in accordance with the Requirement and as described in each Task Authorization. It is expected that the majority of the work will be research and development in nature.

The objective of this requirement is to provide support to DRDC Ottawa in the development of radar signal and image processing.

It is Canada's intent to award one (1) "as and when requested" contract to satisfy the Requirement. The period will be from the date of contract award to March 31, 2013 inclusive, with the irrevocable option to extend the term of the contract by up to four (4) additional one (1) year periods under the same conditions.

The Work or a portion of the Work to be performed under the Contract will be on an "as and when requested basis" using a Task Authorization (TA). The Work described in the TA must be in accordance with the scope of the Contract.

The requirement is limited to Canadian goods and/or services.

This procurement is subject to the Agreement on Internal Trade (AIT)

The services are to be delivered to DRDC Ottawa.

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3. Debriefings

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

PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the Standard Acquisition Clauses and Conditions (<http://sacc.pwgsc.gc.ca/sacc/index-e.jsp>) 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 (2011-05-16) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

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

Delete: sixty (60) days

Insert: one hundred and twenty (120) days

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 ten (10) calendar days before the bid closing date. Enquiries received after that time may not be answered.

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

4. Applicable Laws

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

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

5. Basis for Canada's Ownership of Intellectual Property

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Defence Research and Development Canada has determined that any intellectual property rights arising from the performance of the Work under the resulting contract will belong to Canada, on the following grounds:

- the main purpose of the contract, or of the deliverables contracted for, is to augment an existing body of Canada's background information as a prerequisite to the transfer of the augmented background to the private sector, through licensing or assignment of ownership (not necessarily to the original contractor), for the purposes of commercial exploitation;
- the main purpose of the contract, or of the deliverables contracted for, is to deliver a component or subsystem that will be incorporated into a complete system at a later date, as a prerequisite to the planned transfer of the complete system to the private sector, through licensing or assignment of ownership, for purposes of commercial exploitation.

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
Section II : Financial Bid - 2 hard copies
Section III : Certifications - 1 hard 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;
- (b) use 30% recycled paper;
- (c) print double sided (duplex printing);
- (d) use a numbering system that corresponds to the bid solicitation; and
- (e) submit bound bids using cerlox, staples, etc., but no 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

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

- (a) A firm all-inclusive hourly rate for each category of resources listed in Attachment 1, Financial Bid Presentation Sheet for the contract period.

The total amount of Goods and Services Tax or Harmonized Sales Tax is to be shown separately, if applicable.

No travel and living expenses will be paid for services provided within the National Capital Region (NCR). Further, Canada will not accept any travel and living expenses for travel between the contractor's place of business and the NCR. All of these costs are to be included in the firm all inclusive labour rates requested above.

The information should be provided in accordance with the Financial Bid Presentation Sheet in Attachment 1.

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- (b) 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.

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 and Point Rated Technical Criteria

Refer to Attachment 2 Mandatory and Point Rated Technical Criteria.

1.2 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.

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 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 with the lowest evaluated price will be recommended for award of a contract.

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

$$\frac{\text{Total Bid Price}}{\text{Total Points Achieved}} = \text{Price Per Point}$$

PART 5 - CERTIFICATIONS

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

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

1. Certifications Precedent to Contract Award

The certifications in Attachment 3, Certifications Precedent to Contract Award, 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.

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PART 6 - FINANCIAL REQUIREMENTS

1. Financial Capability

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

PART 7 - RESULTING CONTRACT CLAUSES

1. Requirement

The Contractor must provide research and development services in accordance with the Requirement at Annex A and the Contractor's technical bid entitled _____, dated _____, as and when requested by Canada during the period of the Contract.

An obligation for any Work will come into force only when a Task Authorization (TA) is approved and issued in accordance with the clause entitled "Task Authorization Process".

1.1 Task Authorization

The Work or a portion of the Work to be performed under the Contract will be on an "as and when requested basis" using a Task Authorization (TA). The Work described in the TA must be in accordance with the scope of the Contract.

1.1.1 Task Authorization - Department of National Defence (DND)

The administration of the Task Authorization process will be carried out by DRDC Ottawa Corporate Services/Supply Services. This process includes monitoring, controlling and reporting on expenditures of the contract with task authorizations to the Contracting Authority.

1.1.2 Task Authorization Process:

1. The Procurement Authority will provide the Contractor with a description of the task using the DND 626, Task Authorization Form specified in Annex D.
2. The Task Authorization (TA) will contain the details of the activities to be performed, a description of the deliverables, and a schedule indicating completion dates for the major activities or submission dates for the deliverables. The TA will also include the applicable basis (bases) and methods of payment as specified in the Contract.
3. The Contractor must provide the Procurement Authority, within five (5) calendar days of its receipt, the proposed total estimated cost for performing the task and a breakdown of that cost, established in accordance with the Basis of Payment specified in the Contract.
4. The Procurement Authority will review the information provided by the Contractor with the Technical Authority and, if it is approved, will authorize the Contractor to proceed with the work by issuing a signed DND 626 to the Contractor, while also forwarding a copy to the Contracting Authority. Any task authorization to be issued in excess of the limit specified in clause 1.1.3 Task Authorization Limit must be authorized by the Contracting Authority before issuance.
5. The Contractor must not commence work until a TA authorized by the Technical Authority has been received by the Contractor. The Contractor acknowledges that any work performed before a TA has been received will be done at the Contractor's own risk.

1.1.3 Task Authorization Limit

The Procurement Authority may authorize individual task authorizations up to a limit of \$33,900.00, Goods and Services Tax or Harmonized Sales Tax included, inclusive of any revisions.

Any task authorization to be issued in excess of that limit must be authorized by the the Contracting Authority before issuance.

1.1.4 Periodic Usage Reports – Contracts with Task Authorization

The Contractor must compile and maintain records on its provision of services to the federal government under authorized Task Authorizations issued under the Contract.

The Contractor must provide this data in accordance with the reporting requirements detailed below. If some data is not available, the reason must be indicated. If services are not provided during a given period, the Contractor must still provide a "NIL" report.

The data must be submitted on a quarterly basis to the Contracting Authority.

The quarterly periods are defined as follows:

1st quarter: April 1 to June 30;
 2nd quarter: July 1 to September 30;
 3rd quarter: October 1 to December 31; and
 4th quarter: January 1 to March 31.

The data must be submitted to the Contracting Authority no later than ten (10) calendar days after the end of the reporting period.

Reporting Requirement – Details

A detailed and current record of all authorized tasks must be kept for each contract with a task authorization process. This record must contain:

For each authorized task:

- (i) the authorized task number or task revision number(s);
- (ii) a title or a brief description of each authorized task;
- (iii) the total estimated cost specified in the authorized Task Authorization (TA) of each task, GST or HST extra;
- (iv) the total amount, GST or HST extra, expended to date against each authorized task;
- (v) the start and completion date for each authorized task; and
- (vi) the active status of each authorized task, as applicable.

For all authorized tasks:

(i) the amount (GST or HST extra) specified in the contract, as Canada's total liability to the Contractor for all authorized TAs; and

(ii) the total amount, GST or HST extra, expended to date against all authorized TAs.

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 (<http://ccua-sacc.tpsgc-pwgsc.gc.ca/pub/acho-eng.jsp>) Manual issued by Public Works and Government Services Canada.

2.1 General Conditions

2040 (2011-05-16), General Conditions - Research & Development, apply to and form part of the Contract.

2.2 Supplemental General Conditions

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

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

2.3 SACC Manual Clauses

K3410C (2008-12-12), Canada to Own Intellectual Property Rights in Foreground Information

2.4 Non-disclosure Agreement

The Contractor must obtain from its employee(s) or subcontractor(s) the completed and signed non-disclosure agreement, attached at Annex C, and provide it to the Contracting before they are given access to information by or on behalf of Canada in connection with the Work.

3. Term of Contract

3.1 Period of Contract

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

3.2 Option to Extend the Contract

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to four (4) additional one (1) year periods 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 30 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.

4. Authorities

4.1 Contracting Authority

The Contracting Authority for the Contract is:

Laurie D Brault
Supply Officer

Public Works and Government Services Canada
Acquisitions Branch
Science Procurement Directorate
Place du Portage, Phase III, 11C1
11 Laurier Street
Gatineau, Quebec
K1A 0S5

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Telephone: 819 - 956-1378
 Facsimile: 819 - 997-2229
 E-mail address: laurie.brault@tpsgc-pwgsc.gc.ca

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

4.2 Technical Authority

The Technical Authority for the Contract is:

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

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

(Information to be inserted at the time of contract award)

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.

4.3 Contractor's Representative

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

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

(Information to be inserted at the time of contract award)

4.4 Procurement Authority

The Procurement Authority for the Contract is:

Name : _____
 Organization : _____

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

(Information to be inserted at the time of contract award)

The Procurement Authority is the representative of the department or agency for whom the Work is being carried out under the Contract. The Procurement Authority is responsible for the implementation of tools and processes required for the administration of the Contract. The Contractor may discuss administrative matters identified in the Contract with the Procurement Authority however the Procurement Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of Work can only be made through a contract amendment issued by the Contracting Authority.

5. Payment**5.1 Basis of Payment**

One of the following types of basis of payment will form part of the approved Task Authorization (TA). The task price must be determined in accordance with the Basis of Payment at Annex B.

(a) Firm Lot Price TA

In consideration of the Contractor satisfactorily completing all of its obligations under the authorized Task Authorization (TA), the Contractor will be paid a firm lot price in accordance with the basis of payment, in Annex B and as specified in the authorized TA. Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

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

(b) Ceiling Price TA

The Contractor will be reimbursed its costs reasonably and properly incurred in the performance of the Work, plus a profit, as determined in accordance with the Basis of Payment in Annex B, to the ceiling price specified in the approved TA. Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

The ceiling price is subject to downward adjustment so as not to exceed the actual costs reasonably incurred in the performance of the Work and computed in accordance with the Basis of Payment.

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.

(c) TA subject to a Limitation of Expenditure

The Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work specified in the authorized Task Authorization (TA), as determined in accordance with the Basis of Payment Annex B, to the limitation of expenditure specified in the authorized TA.

Canada's liability to the Contractor under the authorized TA must not exceed the limitation of expenditure specified in the authorized TA. Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

No increase in the liability of Canada or in the price of the Work specified in the authorized TA 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 authorized, in writing, by the Contracting Authority before their incorporation into the Work.

5.2 Minimum Work Guarantee - All the Work - Task Authorizations

1. In this clause,

"Maximum Contract Value" means the amount specified in the "Limitation of Expenditure" clause set out in the Contract; and

"Minimum Contract Value" means 10%.

2. Canada's obligation under the Contract is to request Work in the amount of the Minimum Contract Value or, at Canada's option, to pay the Contractor at the end of the Contract in accordance with paragraph 3. In consideration of such obligation, the Contractor agrees to stand in readiness throughout the Contract period to perform the Work described in the Contract. Canada's maximum liability for work performed under the Contract must not exceed the Maximum Contract Value, unless an increase is authorized in writing by the Contracting Authority.

3. In the event that Canada does not request work in the amount of the Minimum Contract Value during the period of the Contract, Canada must pay the Contractor the difference between the Minimum Contract Value and the total cost of the Work requested.

4. Canada will have no obligation to the Contractor under this clause if Canada terminates the Contract in whole or in part for default.

5.2.1 Limitation of Expenditure - Cumulative Total of all Task Authorizations

1. Canada's total liability to the Contractor under the Contract for all authorized Task Authorizations (TAs), inclusive of any revisions, must not exceed the sum of \$_____ Customs duties are included and the Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

2. No increase in the total liability of Canada will be authorized or paid to the Contractor unless an increase has been approved, in writing, by the Contracting Authority.

3. 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 sum is inadequate for the completion of the Work required in all authorized TAs, inclusive of any revisions,

whichever comes first.

4. 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.

5.2.2 Rate Adjustment for Option Periods

1. Option Period - Firm Hourly Rate

In the event that the whole or portions of Option Period 1 are exercised, the firm hourly rate for Option Period 1 for the Radar Signal and Image Processing Engineer will be based upon their respective Contract Period firm hourly rate as identified in item 1. of Annex B adjusted by the percentage change in the Annual Average Weekly Earnings for Ontario. All employees, excluding overtime, published in Statistics Canada Table No. 281-0026, NAICS = Professional, scientific and technical services over the two immediately preceding Calendar years. Information is available electronically from <http://www.statcan.gc.ca/>.

In the event that the whole or portions of Option Period 2 are exercised, the firm hourly rate for Option Period 2 for the Radar Signal and Image Processing Engineer will be based upon their respective Option Period 1 firm hourly rate as identified in item 1. of Annex B adjusted by the percentage change in the Annual Average Weekly Earnings for Ontario. All employees, excluding overtime, published in Statistics Canada Table No. 281-0026, NAICS = Professional, scientific and technical services over the two immediately preceding Calendar years. Information is available electronically from <http://www.statcan.gc.ca/>.

In the event that the whole or portions of Option Period 3 are exercised, the firm hourly rate for Option Period 3 for the Radar Signal and Image Processing Engineer will be based upon their respective Option Period 2 firm hourly rate as identified in item 1. of Annex B adjusted by the percentage change in the Annual Average Weekly Earnings for Ontario. All employees, excluding overtime, published in Statistics Canada Table No. 281-0026, NAICS = Professional, scientific and technical services over the two immediately preceding Calendar years. Information is available electronically from <http://www.statcan.gc.ca/>.

In the event that the whole or portions of Option Period 4 are exercised, the firm hourly rate for Option Period 4 for the Radar Signal and Image Processing Engineer will be based upon their respective Option Period 3 firm hourly rate as identified in item 1. of Annex B adjusted by the percentage change in the Annual Average Weekly Earnings for Ontario. All employees, excluding overtime, published in Statistics Canada Table No. 281-0026, NAICS = Professional, scientific and technical services over the two immediately preceding Calendar years. Information is available electronically from <http://www.statcan.gc.ca/>.

2. Example Calculation

The following formula will be used to calculate the percentage change as described in item 1. above:

Percentage Change =

$$\left(\frac{\text{Sum of Indices for Calendar Year prior to Calendar Year of the Option Period per Province}}{\text{Sum of Indices for Calendar Year two years prior to Calendar Year of the Option Period per Province}} - 1 \right) \times 100$$

Example Scenario

To calculate the firm hourly rate for Option Period 1 of the Contract, whereby the Option Year 1 will commence April 1, 2011, the firm hourly rate for the Contract Period would be increased by 4.96% based on the following assumptions:

Calendar Year Two Years prior to the Calendar Year of the Option Period in Ontario - January 2009 - December 2009

Month	Indice
Jan 2009	1,153.02
Feb 2009	1,165.56
Mar 2009	1,142.85
Apr 2009	1,162.71
May 2009	1,152.78
Jun 2009	1,164.08
Jul 2009	1,120.55
Aug 2009	1,147.84
Sep 2009	1,132.11
Oct 2009	1,140.05
Nov 2009	1,160.76
Dec 2009	1,196.29
Sum of Indices:	13,838.60

Calendar Year prior to the Calendar Year of the Option Period in Ontario - January 2010 - December 2010

Month	Indice
Jan 2010	1,211.38
Feb 2010	1,200.70
Mar 2010	1,193.85
Apr 2010	1,184.30
May 2010	1,201.68
Jun 2010	1,212.64
Jul 2010	1,190.17
Aug 2010	1,190.00
Sep 2010	1,214.75
Oct 2010	1,213.84
Nov 2010	1,230.33
Dec 2010	1,281.77
Sum of Indices:	14,525.41

$$\text{Percentage Change} = \left(\frac{14,508.41}{13,838.60} - 1 \right) \times 100$$

$$\text{Percentage Change} = 4.96\%$$

5.3 Method of Payment

5.3.1 Payments will be made not more frequently than once a month.

5.3.2 Depending on the method of payment specified in the applicable TA, one of the following method of payment clauses will apply.

5.3.2.1 Single Payment (For a Firm Price TA)

Canada will pay the Contractor upon completion and delivery of the Work in accordance with the payment provisions of the Task Authorization and the Contract if:

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

5.3.2.2 Milestone Payments (For a Firm Price TA)

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

- (a) an accurate and complete invoice, and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- (b) all work associated with the milestone and as applicable any deliverable required has been completed and accepted by Canada.

5.3.2.3 Progress Payments (For a TA subject to a Limitation of Expenditure or a Ceiling Price)

- (a) Canada will make progress payments in accordance with the payment provisions of the Task Authorization and the Contract for cost incurred in the performance of the Work up to 90 percent of the amount claimed and approved by Canada if:
 - (i) an accurate and complete invoice and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
 - (ii) the amount claimed is in accordance with the Basis of payment and the Task Authorization;
 - (iii) the total amount for all progress payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Task Authorization.
- (b) The balance of the amount payable will be paid in accordance with the payment provisions of the Task Authorization and the Contract upon completion and delivery of all work required under the Task Authorization if the Work has been accepted by Canada and a final claim for the payment is submitted.
- (c) Progress payments are interim payments only. Canada may conduct a government audit and interim time and cost verifications and reserves the right to make adjustments to the Contract from time to time during the performance of the Work. Any overpayment resulting from progress payments or otherwise must be refunded promptly to Canada.

5.4 SACC Manual Clauses

A9117C (2007-11-30), T1204 - Direct Request by Customer Department
C0305C (2008-05-12), Cost Submission

5.5 Time Verification

SACC Manual Clause C0711C (2008-05-12), Time Verification

6. Invoicing Instructions - Progress Claim

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 Task Authorization (TA) number;
 - (d) the description of the milestone invoiced, as applicable.
2. For TAs subject to a Limitation of Expenditure or a Ceiling Price, each invoice must be supported by:
 - (a) a list of all expenses, in accordance with the TA;
 - (b) a copy of time sheets to support the time claimed;
 - (c) a copy of the release document and any other documents as specified in the Contract;
 - (d) a copy of the invoices, receipts, vouchers for all direct expenses, travel and living expenses;
 - (e) a copy of the monthly progress report.
3. 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.
4. The Contractor must prepare and certify an original claim on Form PWGSC-TPSGC 1111, and forward it to the Contracting Authority for certification in an electronic format to the electronic mail address identified under section entitled "Authorities" of the Contract. Adobe Reader (.pdf) format is acceptable. The Contracting Authority will then forward the certified claim, in an electronic format, to the Technical Authority for appropriate certification after inspection and acceptance of the Work takes place, and onward submission to the Payment Office for the remaining certification and payment.
5. The Contractor must not submit claims until all work identified in this claim is completed.

7. Certifications

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

7.2 SACC Manual Clauses

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

8. Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in _____ **(to be inserted at contract award)**.

9. Priority of Documents

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

- (a) the Articles of Agreement;
- (b) the supplemental general conditions 4002 (2010-08-16), Software Development or Modification Services;
- (c) the general conditions 2040 (2011-05-16) General Conditions - Research & Development
- (d) Annex A, Requirement;
- (e) Annex B, Basis of Payment;
- (f) Annex C, Non-disclosure Agreement;
- (g) the signed Task Authorizations (including all of its annexes, if any) ;
- (h) Annex D, Department of National Defence (DND) 626 Task Authorization Form;
- (i) the Contractor's bid dated _____.

10. Defence Contract

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

11. Foreign Nationals (Canadian Contractor)

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

12. Insurance

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

13. Government Site Regulations

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

ATTACHMENT 1

FINANCIAL BID PRESENTATION SHEET

1. **LABOUR:** at firm all-inclusive hourly rates, inclusive of overhead and profit, GST/HST extra, F.O.B. Destination (for goods), in accordance with the following:

The estimated level of effort specified under the "Annual Estimated Level of Effort (Hours)" column is only an approximation of requirements given in good faith and is provided for financial bid evaluation purposes only. It does not represent a commitment by Canada

Firm All Inclusive Hourly Rates		
	Contract Period	
	Contract Award to March 31, 2013	Annual Est. Level of Effort (Hours)
Radar Signal and Image Processing Engineer	\$ /hr	600

TOTAL PRICE OF BID: \$ _____
(GST/HST extra)

The total price of bid will only be used for evaluation purposes only.

ATTACHMENT 2

MANDATORY AND POINT RATED TECHNICAL CRITERIA

1. Mandatory Technical 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.

M1 The Bidder must propose by name one (1) resource in the category of **Radar Signal and Image Processing Engineer** and must submit a résumé for the proposed resource.

M2 The proposed **Radar Signal and Image Processing Engineer** must have completed a PhD from a recognized* university or college, or the equivalent, in the field of Engineering, Physics or Science.

*Where the PhD was completed and obtained outside of Canada, Canada reserves the right to request a Canadian equivalency document to be provided by the Bidder and issued by recognized academic credentials assessment organization showing the academic level obtained.

2. Point Rated Technical Criteria

1. To facilitate the understanding of the scoring for the Technical Bid, the following table is provided:

Description	Total Minimum Number of Points Required	Total Maximum Number of Points Available
R1	39	73
R2	50	120
R3	24	36
Total:	113	229

2. Bidders are advised that only listing experience without providing any supporting data to describe responsibilities, duties, and relevance to the requirements will not be considered "demonstrated" for the purpose of this evaluation.

R1	RESOURCE EXPERIENCE	MAXIMUM POINTS AVAILABLE	MINIMUM POINTS REQUIRED
	Maximum Available Points - 73, Minimum Required Points - 39		
R1.1	<p>Signal Processing</p> <p>The Bidder should demonstrate the proposed Radar Signal and Image Processing Engineer's experience performing signal processing using time-frequency analysis methods.</p> <p>1 point will be awarded for each demonstrated year of experience up to a maximum of 25 points.</p>	25	10

	All experience must have been obtained within the last 30 years from date of solicitation closing.		
R1.2	<p>Parameters Estimation and Detection</p> <p>The Bidder should demonstrate the proposed Radar Signal and Image Processing Engineer's experience performing parameters estimation and detection using time-frequency analysis methods.</p> <p>1 point will be awarded for each demonstrated year of experience up to 15 points.</p> <p>All experience must have been obtained within the last 20 years from date of solicitation closing.</p>	15	10
R1.3	<p>Focusing SAR Imaging</p> <p>The Bidder should demonstrate the proposed Radar Signal and Image Processing Engineer's experience focusing SAR imaging.</p> <p>1 point will be awarded for each demonstrated year of experience up to 6 points.</p> <p>All experience must have been obtained within the last 10 years from date of solicitation closing.</p>	6	3
R1.4	<p>Focusing ISAR Imaging)</p> <p>The Bidder should demonstrate the proposed Radar Signal and Image Processing Engineer's experience focusing ISAR imaging.</p> <p>1 point will be awarded for each demonstrated year of experience up to 6 points.</p> <p>All experience must have been obtained within the last 10 years from date of solicitation closing.</p>	6	3
R1.5	<p>Micro-Doppler Analysis</p> <p>The Bidder should demonstrate the proposed Radar Signal and Image Processing Engineer's experience performing micro-Doppler analysis.</p> <p>1 point will be awarded for each demonstrated year of experience up to 6 points.</p> <p>All experience must have been obtained within the last 10 years from date of solicitation closing.</p>	6	3
R1.6	Programming in Matlab		

	<p>The Bidder should demonstrate the proposed Radar Signal and Image Processing Engineer's experience programming in Matlab.</p> <p>1 point will be awarded for each demonstrated year of experience up to a maximum of 15 points.</p> <p>All experience must have been obtained within the last 20 years from date of solicitation closing.</p>	15	10
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R2 PEER-REVIEWED JOURNAL PUBLICATIONS

(Maximum Available Points 120, Minimum Required Points 50)

The Bidder should demonstrate that the proposed **Radar Signal and Image Processing Engineer** has authored or co-authored peer-reviewed journal publications in the subject areas identified in each criteria R2.1 to R2.8 below. For each publication identified, the Bidder should provide the following:

- a. The publication name;
- b. The date of publication;
- c. The title of the article; and
- d. A brief description describing the subject area of the peer-reviewed journal publications authored or coauthored by the proposed **Radar Signal and Image Processing Engineer**, sufficient to demonstrate that the publication content is within the subject areas identified in point rated criteria R2.1 to R2.8 below.

A single publication may be identified for evaluation under more than one subject area. In such cases, the Bidder should provide a brief description for each subject area that the publication is being evaluated against.

Item	Subject Area	MAXIMUM POINTS AVAILABLE	MINIMUM POINTS REQUIRED
R2.1	<p>Joint Time Frequency Techniques</p> <p>5 points - 1 to 5 peer-reviewed journal publications 10 points - 6 to 10 peer-reviewed journal publications 20 points - 11 to 15 peer-reviewed journal publications 30 points - 16 to 20 peer-reviewed journal publications 40 points - 21 or more peer-reviewed journal publications</p>	40	20
R2.2	<p>Simulated Experimental Radar Analysis using Time Frequency Techniques</p> <p>5 points - 1 to 3 peer-reviewed journal publications 10 points – 4 to 6 peer-reviewed journal publications 15 points – 7 to 9 peer-reviewed journal publications 20 points - 10 or more peer-reviewed journal publications</p>	20	10

R2.3	Time Frequency Decomposition Methods 5 points - 1 to 2 peer-reviewed journal publications 10 points - 3 or more peer-reviewed journal publications	10	*See Note 1 below
R2.4	Instantaneous Frequency Estimation using Time - Frequency Analysis 5 points - 1 to 2 peer-reviewed journal publications 10 points - 3 or more peer-reviewed journal publications	10	*See Note 1 below
R2.5	Time - Frequency Based Filtering 5 points - 1 to 2 peer-reviewed journal publications 10 points - 3 or more peer-reviewed journal publications	10	*See Note 1 below
R2.6	Detection, including CFAR, using Time - Frequency Analysis 5 points - 1 to 2 peer-reviewed journal publications 10 points - 3 or more peer-reviewed journal publications	10	*See Note 1 below
R2.7	Noise Analysis using Time - Frequency Analysis 5 points - 1 to 2 peer-reviewed journal publications 10 points - 3 or more peer-reviewed journal publications	10	*See Note 1 below
R2.8	Micro-Doppler, SAR, or ISAR Analysis using Time - Frequency Analysis 5 points - 1 to 2 peer-reviewed journal publications 10 points - 3 or more peer-reviewed journal publications	10	*See Note 1 below
* Note 1: For criteria R2.3 to R2.8 above, the Bidder must obtain a minimum score of 5 points in at least four (4) of the six (6) criteria.			

R3 UNDERSTANDING OF SAMPLE TASK AUTHORIZATION TASK REQUIREMENT (Maximum Available Points 36, Minimum Required Points 24)

The Sample Task Authorization task requirement attached as **Appendix 1 to Attachment 2** describes a requirement that is within scope of the Resulting Contract in Part 7 of the bid solicitation.

The Bidder should submit a task Proposal that addresses criteria R3.1 and R3.2 below.

R3.1 Understanding of the Requirement

The Bidder should demonstrate an understanding of the objectives of the Sample Task Authorization task requirement and should address in detail how it intends to satisfy the requirements of each task identified in the task requirement document.

The Bidder, in its own vocabulary, should provide a clear description addressing each of the following:

- a) Understanding the scope of work, context and strategic objectives of the task requirement; and
- b) Results and benefits to be derived from the task requirement.

Points	Points Descriptor
0	<p>The Bidder has provided no information for this criterion.</p> <p>OR</p> <p>The Bidder has not demonstrated any understanding of the scope of work, the context, strategic objectives and results and benefits of the task requirement.</p>
	<p>The Bidder has demonstrated a minimal understanding of the scope of work, the context and strategic objectives of the task requirement.</p> <p>The Bidder has conveyed a lack of appreciation of the results and benefits derived from the tasks requirement and has demonstrated significant weaknesses in its overall comprehension of the Sample Task Authorization task requirement.</p>
12	<p>The Bidder has demonstrated good understanding of the scope of work, context and strategic objectives of the task requirement.</p> <p>The Bidder has conveyed an adequate appreciation of the results and benefits derived from the tasks requirement and has demonstrated limited weaknesses in its overall comprehension of the Sample Task Authorization task requirement.</p>
18	<p>The Bidder has demonstrated excellent understanding of the scope of work, context and the strategic objectives of the requirement.</p> <p>The Bidder fully and clearly appreciates the results and benefits derived from the tasks requirement and has demonstrated no weaknesses in its overall comprehension of the Sample Task Authorization task requirement.</p>

R3.2 Approach and Methodology

The Bidder, in its own vocabulary, should provide a clear description addressing each of the following:

- a) Proposed approach and methodology to meet the task objectives identified in the tasks requirement;
- b) Identify potential challenges, limitations and risks that may impact the progression of the work; and
- c) Solutions to mitigate the identified challenges, limitations and risks.

Points	Points Descriptor
0	<p>The Bidder's Task Proposal provides no information for this criterion.</p> <p>OR</p> <p>The Bidder's proposed Approach and Methodology are unrealistic and are not suitable for meeting the task objectives identified in the Sample Task Authorization task requirement.</p> <p>The Bidder has not addressed any solutions to mitigate any potential challenges, limitations and risks that may impact the progression of work.</p>
6	<p>The Bidder's proposed Approach and Methodology provides minimal assurance that it will have the ability to meet the task objectives identified in the Sample Task Authorization task requirement.</p> <p>The Bidder has minimally addressed potential challenges, limitations, and risks with that may impact the progression of the work;</p> <p>The Bidder has briefly addressed mitigation strategies to provide assurance that work progression will not suffer.</p>
12	<p>The Bidder has proposed an acceptable Approach and Methodology, which provides a reasonable level of assurance that it will have the ability to meet the task objectives identified in the Sample Task Authorization.</p> <p>The Bidder has adequately addressed potential challenges, limitations, and risks that may impact the progression of the work;</p> <p>The Bidder has provided suitable mitigation strategies to provide assurance that work progression will not suffer.</p>
18	<p>The Bidder has proposed a highly suitable Approach and Methodology, which provides a superior level of assurance that it will effectively meet all task objectives identified in the Sample Task Authorization.</p> <p>The Bidder has clearly and completely addressed all potential challenges, limitations, and risks that may impact the progression of the work; and</p> <p>The Bidder has provided highly suitable mitigation strategies to provide complete assurance that work progression will not suffer.</p>

APPENDIX 1 TO ATTACHMENT 2

SAMPLE TASK AUTHORIZATION TASK REQUIREMENT

- 1) The Contractor must investigate and develop decomposition algorithms to detect and track low observable maneuvering accelerated targets in the littoral environments (e.g., high sea-state, strong land clutter). The Contractor must develop a novel approach, which can give reliable results in the case of a nonlinear target motion.
- 2) The Contractor must study and develop algorithms for parametric and non-parametric approaches for the detection and tracking of low observable maneuvering accelerated targets in the littoral environments (e.g., high sea-state, strong land clutter). These algorithms must provide better results in both cases, nonlinear and uniform target motion.
- 3) The Contractor must investigate and develop algorithms for multi-component polynomial phase signal analysis. In particular, existing estimation methods based on the polynomial phase transform, the integrated generalized ambiguity function, and the product higher-order ambiguity function must be studied. Also, new techniques for joint estimation of parameters of multi-component polynomial phase signals based on combination of the PHAF (Product High-order Ambiguity Function) and nonlinear optimization techniques must also be studied.
- 4) The Contractor must develop algorithms such as Viterbi algorithm for the detection of (unknown) deterministic signal in a high noise environment. For highly non-stationary environment, it is expected that the proposed algorithm should achieve better detection results close to the Cramer-Rao bound. The Contractor must compare the proposed methods with other detection and tracking methods as used in [13*] and [18**].
- 5) The Contractor must develop algorithms to detect and track ballistic missiles based on micro-motion properties of a missile such as time-varying precession frequency and precession angle.
- 6) The Contractor must investigate the possible application of MIMO (multiple inputs, multiple outputs) for the phased array radar and its application to the detection and tracking of low observable maneuvering accelerated targets in the littoral environments (e.g., high sea-state, strong land clutter).
- 7) The Contractor must develop software (in a form of virtual instrument in MATLAB) for the detection and tracking of low observable targets in the littoral environments. At the end of the contract, the Contractor must propose a new optimal detection, tracking, and classification technology to be used as a tool for missile analysis for future studies.

References:

- 13* A.M. Sayeed, D.L. Jones, "Optimal detection using bilinear time-frequency and time-scale representations", IEEE Trans on SP, Vol.43, No.12, Dec.1995, pp. 2872 – 2883.
- 18** S. Panagopoulos, J.J. Soraghan, "Small-target detection in sea clutter", IEEE Trans, on Geoscience and Remote Sensing, Vol. 42, No.7, July 2004, pp.1355-1361.

ATTACHMENT 3

CERTIFICATIONS PRECEDENT TO CONTRACT AWARD

1. Federal Contractors Program Certification

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. 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.

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.

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

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.

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

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every individual proposed by the Bidder for the requirement is capable of performing the Work described in the resulting contract.

6. Language Capability

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

ANNEX A

REQUIREMENT

DETECTION AND IMAGING OF MOVING TARGETS IN THE LITTORAL ENVIORNMENTS

1. REQUIREMENT

The requirement of the Contract is to provide radar signal and image processing support services on an "as and when requested" basis to the Department of National Defence (DND), Defence Research and Development Canada – Ottawa (DRDC). The authorized work will use adaptive time-frequency based techniques, decomposition techniques, and higher-order ambiguity functions for the detection and imaging of low observable manoeuvrings and accelerated targets in the littoral environments.

2. BACKGROUND

Target detection and imaging, for example, in estimating the state of one or more moving objects from noisy uncertain data from one or more sensors like radar or sonar, is a well-studied problem in the literature [1-6]. However, because of the advances in sensor technology and the emergence of new types of threats, it is still a very active area of research with particular application to safety and security. One of the central problems in exploiting the radar data is the analysis of a time series. The problem at hand is how to extract the information present in the data and use it to its full potential. Traditionally, radar signals have been analyzed in either the time or the frequency domain. The Fourier Transform is at the heart of a wide range of techniques that are generally used in radar data analysis and processing. However, the change of frequency content with time is one of the main features we generally observe in radar data. Because of this change of frequency content with time, radar signals belong to the class of non-stationary signals. The analysis of non-stationary signals requires technique that extends the notion of a global frequency spectrum to a local frequency description. Joint time-frequency analysis using time-frequency transforms has improved the analysis of non-stationary signals by revealing time-varying information embedded in signals [1].

During the past ten years, time-frequency analysis has been a major area of research in radar signal and image processing. One of the main challenges in radar detection and imaging is the unknown nature of the target's motion. The commonly used technique for radar detection and imaging is a Fourier-based approach, which assumes time invariance of the Doppler frequency. However, in real-world radar detection and imaging scenarios, when a target exhibits complex motion such as rotation, acceleration, or maneuvering, standard Fourier-based methods fail to yield more revealing picture of the temporal localization of a signal's spectral components. Radar target signature in the joint time-frequency domain is especially useful for representing time-dependent frequency characteristics that may help for target identification [1,3,5-13]. The ultimate goal of the time-frequency approach is not merely to detect or form an image of the target, but also to apply in real-time for target identification, especially cases of non-cooperative targets.

Identification of ocean moving targets from radar images has always been a difficult task, especially for single polarization radar. Fully polarimetric radar, however, can provide detailed information on scattering mechanisms that could enable the ocean target or target structures to be identified. Polarimetric Synthetic Aperture Radar (SAR) and Inverse Synthetic Aperture Radar (ISAR) imaging is an effective way to acquire high-resolution images of targets of interest at long range and as such is an irreplaceable tool in the task of non-cooperative target recognition of both ships and ground moving targets. A recent study clearly shows the effects of target acceleration on SAR imagery as analyzed by standard range-Doppler processing [16]. Although ocean targets traveling on sea routinely experience acceleration, the majority of ship detection and imaging algorithms assume a constant velocity scenario, which may result in a defocused target response. Accelerations can have severe effects on focusing and may result in azimuth shift, azimuth smearing and a significant loss of peak power in SAR image. One of the potential

applications of polarimetric SAR is monitoring ship traffic on sea, where target acceleration is commonplace and must be considered. Recently time-frequency method has been used to improve target focusing [17].

The micro-Doppler (m-D) effect appears in the SAR and ISAR imaging whenever the target has one or more rotating or vibrating parts for example in aircrafts, ships, and missiles. If the frequency modulations on the returned signal caused by the moving parts are not filtered then the m-D effect can introduce severe distortion in the SAR and ISAR images. On the other hand, the m-D effect also carries the information about the features of moving parts that are complementary to those existing recognition methods. Micro-Doppler features have great potential for use in automatic target classification algorithms [1,9].

3. SCOPE

The focus of the requirement is the detection and imaging of low-observable targets for example in small boats, low-observable missiles, and miniature aircraft that are hard to detect by the sensors because of their small size or due to deliberate deception. Another problem confounding the detection and imaging of these targets is the presence of heavy clutter due to the nature of the environment or due to low thresholding needed to detect the small targets.

The objective of this requirement is to develop of various adaptive time-frequency techniques and decomposition methods for the detection and imaging of low observable manoeuvring and accelerated target in the littoral environment.

Time-frequency algorithms developed by DRDC Ottawa will further be explored and studied for the detection and imaging of low observable manoeuvring and accelerated targets in the littoral environments for example in high sea-state, and strong land clutter.

The product higher order ambiguity function (PHAF) will further be investigated and developed to estimate the phase and motion parameters. In particular, existing estimation methods based on the polynomial phase transform, the integrated generalized ambiguity function and the product higher-order ambiguity function will be studied for modern multi-function radar (MFR) system.

4. TASK DESCRIPTION

The Contractor may be required to provide radar signal and image processing support services on an "as and when requested" basis in the following areas:

- Development of various adaptive time-frequency decomposition methods for the detection and imaging of low observable manoeuvring and accelerated target in the littoral environments;
- Development of algorithms for multi-component polynomial phase signal analysis;
- Development of algorithms to detect and track ballistic targets based on micro-motion properties of a target such as time-varying precession frequency and precession angle;
- Clutter cancellation methods in radar detection and tracking using time-frequency based methods;
- Development of various extraction methods for M-D analysis;
- Development of various adaptive constant false alarm rate (CFAR) detection methods in the joint time-frequency domain under various background noise and clutter environment;

- Detection and imaging of low observable stationary and non-stationary targets for SAR and ISAR imaging in clutter environments;
- Development of signal processing algorithms for noise radar systems; and
- Studies of the possible application of Multiple Inputs, Multiple Outputs (MIMO) for the phased array radar and its application to the detection and tracking of low observable maneuvering and accelerated targets in the littoral environments for example in high sea-state, and strong land clutter.

5. SOFTWARE REQUIREMENTS

Software deliverables will be specified in each authorized task. In general, software deliverables must comply with the following:

5.1 Any software files (source code) must have a header giving:

- The name of the program, function or module and the file name;
- The purpose and description of the program, and function and module;
- The name of the author(s); and
- The creation date and revision history.

5.2 The software must be written for the MATLAB version 7.0.4.

5.3 Disks must be write-protected and labeled, and list of all files including its name, and file size must be provided.

6. DELIVERABLES AND REPORT REQUIREMENTS

Deliverables will be specified in each authorized task. In general, documentation deliverables must comply with the following:

6.1 Final reports must be separately bound. The conclusion of the report must contain recommendations for follow-on work. A separate chapter or chapters of the report must be devoted to each of the requirement of the task authorization and must include the following information:

- A description of the objective of the work;
- The theory in enough detail to allow duplication of the derivation;
- The mathematical basis for the algorithms developed;
- A description of the scenarios used for the investigation of the algorithms;
- Detailed description of all software programs produced;
- The results of the investigation; and
- The analysis of the results.

6.2 Using MSOffice Suite 2003, documentation standards must include Microsoft Word or LaTeX for reports, Power Point for presentations and Microsoft Word or LaTeX for specification documents unless specified otherwise by the Technical Authority.

6.3 Quarterly reports, draft and final reports must be printed on not less than 90 GSM (24 pounds) 216 mm X 279mm (8 .5 X 11 inches) white bond paper. The electronic report standard must be in Microsoft Word 2003 or higher unless specified otherwise by the Technical Authority. All reports sent to the Contracting Authority must be in at least Microsoft Word 2003.

7. MEETINGS

Requirements for meetings will be specified in each authorized task. In general, task reviews and progress-meeting requirements must comply with the following:

7.1 Contract Kick-Off Meeting

The Contract kick off meeting will be held within two weeks of the contract award date. The meeting will take place at the Contractor's facility or the Technical Authority's facility or via conference call at the discretion of the Technical Authority.

7.2 Progress Review Meetings

Monthly progress reviews of the authorized work will be held either at DRDC Ottawa or at the Contractor's location.

The meetings will:

- Outline the progress of the task authorized work; and
- Discuss any technical difficulties that have arisen.

8. LOCATION OF WORK

The work will be carried out at the Contractor's facility.

9. TRAVEL & LIVING

There will be no requirement for Travel this requirement.

10. LANGUAGE OF WORK

The Work will be performed, and deliverables must be submitted, in English unless specified otherwise in the task authorization.

11. GOVERNMENT SUPPLIED EQUIPMENT

A copy of the document preparation guide can be found at Appendix 1 to Annex A.

12. FOREGROUND INFORMATION

In addition to the disclosure obligation under SACC Manual Clause K3410C, any Foreground Information must be fully disclosed and documented by the Contractor in the technical reports delivered by the Contractor to the Technical Authority under this Contract.

13. REFERENCES

- 1) V.C. Chen, H. Ling, Time-frequency transforms for radar imaging and signal analysis, Artech House, Boston, USA, 2002.
- 2) S. Panagopoulos, J.J. Soraghan, "Small-target detection in sea clutter", IEEE Trans, on Geoscience and Remote Sensing, Vol. 42, No.7, July 2004, pp.1355-1361.

- 3) L.J. Stankovic, T. Thayaparan, M. Dakovic, "Signal Decomposition by Using the S-Method with Application to the Analysis of HF Radar Signals in Sea-Clutter", IEEE Trans. on Signal Processing, Vol.54, No.11, Nov. 2006, pp.4332- 4342.
- 4) A. Thomson and E. Riseborough, "Evaluation of SADM radar detection performance modeling, DRDC-Ottawa, TR 2007-150, 2007.
- 5) Yasotharan, A. and Thayaparan, T. (2006). A time-frequency method for detecting an accelerating target in sea or land clutter, IEEE Transactions on Aerospace and Electronic Systems, Vol. 42, Issue 4, pp. 1289 – 1310.
- 6) Thayaparan, T., Stankovic, L., Wernik, C., and Dakovic, M. (2008). Real-Time Motion Compensation, Image Formation and Image Enhancement of Moving Targets in ISAR and SAR Using S-method Based Approach, IET Signal Processing, Vol. 2, No. 3, pp 247-264.
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- 9) Thayaparan, T., Stankovic, L., and Djurovic, I., (2008). M-D Based Target Detection and Feature Extraction in Indoor and Outdoor Environments, J. of the Franklin Institute, Vol. 345, Issue 6, pp 700-722.
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- 12) C. Conru, I. Djurovic, C. Ioana, A. Quinquis, L.J. Stankovic, "Time-frequency detection using Gabor filter bank and Viterbi based grouping algorithm", ICASSP 2005, Vol.4, 18-23 March 2005, pp.497-500.
- 13) A.M. Sayeed, D.L. Jones, "Optimal detection using bilinear time-frequency and time-scale representations", IEEE Trans on SP, Vol.43, No.12, Dec.1995, pp. 2872 – 2883.
- 14) S. Barbarossa, "Detection and estimation of the instantaneous frequency of polynomial-phase signals by multilinear time-frequency representations", in Proc. IEEE SP Workshop on Higher Order Statistics, South Lake Tahoe, CA, pp.168-172, June 1993.
- 15) D. S. Pham, A. M. Zoubir: "Analysis of multicomponent polynomial phasesignals," IEEE Trans. on Signal Processing, vol. 55, no. 1, pp. 56—65, Jan.2007.
- 16) Sharma, J.J., Gierull, C.H., and Collins, M.J. (2006). The influence of target acceleration on velocity estimation in dual-channel SAR-GMTI IEEE Transactions on Geoscience and Remote Sensing, Volume 44, Issue 1, pp. 134 - 147.
- 17) Sharma, J. J., Gierull, C. H., and Collins, M. J. (2006). Compensating the effect of target accelerating in dual-channel SAR-GMTI, IEE Proc.-Radar Sonar Navig., Vol. 153, No. 1, pp. 53-62.
- 18) S. Panagopoulos, J.J. Soraghan, "Small-target detection in sea clutter", IEEE Trans, on Geoscience and Remote Sensing, Vol. 42, No.7, July 2004, pp.1355-1361.

14. GLOSSARY

CFAR	Constant False Alarm Rate
DND	Department of National Defence
DRDC	Defence Research and Development Canada
ISAR	Inverse Synthetic Aperture Radar
m-D	Micro-Doppler
MFR	Multi-Function Radar
MIMO	Multiple Inputs, Multiple Outputs

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PHAF	Product Higher Order Ambiguity Function
PPS	Polynomial Phase Signals
SAR	Synthetic Aperture Radar

APPENDIX 1 TO ANNEX A

DOCUMENT PREPARATION GUIDE

This guide specifies the requirements for Contractor Reports submitted for this contract.

Format

Unless otherwise specified in the Statement of Work or in the Contract Deliverable Description, the report may be written in the Contractor's format. However, the following items shall be included:

- 1) Abstract
- 2) Table of Contents
- 3) List of Tables
- 4) List of Figures
- 5) Glossary of terms, acronyms, and abbreviations
- 6) Introduction
- 7) Summary at the end
- 8) List of References (where applicable)

Illustrations

- 1) All illustrations (photographs, line drawings, diagrams) shall be legible.
- 2) Each illustration shall be given a figure number and a caption or title. The caption should have enough detail that the reader does not need to refer to the text to understand the content.
- 3) Illustrations shall be placed in the text as near as possible to the first reference made to them, but never on a previous page.
- 4) Labels shall be used to clearly indicate the salient feature of the illustration.
- 5) A legend shall be used for plots with multiple curves on them.
- 6) Each plot's axes shall have titles and units.

ANNEX B**BASIS OF PAYMENT****1. LABOUR**

The Contractor will be paid firm all inclusive hourly rates, inclusive of overhead and profit, as follows, for work performed in accordance with the Contract. Customs duties are included and Goods and Services Tax or Harmonized Sales Tax (GST/HST) is extra, if applicable.

Firm All Inclusive Hourly Rates					
Labour Category	Contract Period	Option Periods			
	Year 1				
	Contract Award to March 31, 2013	Option Year 1: April 1, 2013 to March 31, 2014	Option Year 2: April 1, 2014 to March 31, 2015	Option Year 3: April 1, 2015 to March 31, 2016	Option Year 4: April 1, 2016 to March 31, 2017
Radar Signal and Image Processing Engineer	\$ /hr	\$ /hr	\$ /hr	\$ /hr	\$ /hr

- (a) In the event that the whole or portions of Option Periods 1, 2, 3, and 4 are exercised, the calculation of the Hourly Rates will be adjusted as per Article 5.2.2, Rate Adjustment for Option Periods, of this Contract.

TOTAL ESTIMATED LABOUR: \$ _____
(GST/HST extra)

Total Estimated Cost to a Limitation of Expenditure -
Cumulative Total of all Task Auhtozaitons: \$ _____
(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.

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ANNEX C

NON-DISCLOSURE AGREEMENT

I, _____, recognize that in the course of my work as an employee or subcontractor of _____, I may be given access to information by or on behalf of Canada in connection with the Work, pursuant to Contract Serial No _____ between Her Majesty the Queen in right of Canada, represented by the Minister of Public Works and Government Services and _____, including any information that is confidential or proprietary to third parties, and information conceived, developed or produced by the Contractor as part of the Work. For the purposes of this agreement, information includes but not limited to: any documents, instructions, guidelines, data, material, advice or any other information whether received orally, in printed form, recorded electronically, or otherwise and whether or not labeled as proprietary or sensitive, that is disclosed to a person or that a person becomes aware of during the performance of the Contract.

I agree that I will not reproduce, copy, use, divulge, release or disclose, in whole or in part, in whatever way or form any information described above to any person other than a person employed by Canada on a need to know basis. I undertake to safeguard the same and take all necessary and appropriate measures, including those set out in any written or oral instructions issued by Canada, to prevent the disclosure of or access to such information in contravention of this agreement.

I also acknowledge that any information provided to the Contractor by or on behalf of Canada must be used solely for the purpose of the Contract and must remain the property of Canada or a third party, as the case may be.

I agree that the obligation of this agreement will survive the completion of the Contract Serial No: _____

Signature

Date

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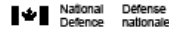
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ANNEX D

DEPARTMENT OF NATIONAL DEFENCE (DND) 626 TASK AUTHORIZATION FORM



TASK AUTHORIZATION AUTORISATION DES TÂCHES

All invoices/progress claims must show the reference Contract and Task numbers. Toutes les factures doivent indiquer les numéros du contrat et de la tâche.		Contract no. - N° du contrat Task no. - N° de la tâche
Amendment no. - N° de la modification	Increase/Decrease - Augmentation/Réduction	Previous value - Valeur précédente
To - A	TO THE CONTRACTOR You are requested to supply the following services in accordance with the terms of the above reference contract. Only services included in the contract shall be supplied against this task. Please advise the undersigned if the completion date cannot be met. Invoices/progress claims shall be prepared in accordance with the instructions set out in the contract. A L'ENTREPRENEUR Vous êtes prié de fournir les services suivants en conformité des termes du contrat mentionné ci-dessus. Seuls les services mentionnés dans le contrat doivent être fournis à l'appui de cette demande. Prière d'aviser le signataire si la livraison ne peut se faire dans les délais prescrits. Les factures doivent être établies selon les instructions énoncées dans le contrat.	
Delivery location - Expéditez à	Date _____ for the Department of National Defence pour le ministère de la Défense nationale	
Delivery/Completion date - Date de livraison/d'achèvement		
Contract item no. N° d'article du contrat	Services	Cost Prix
		GST/HST TPS/TVH
		Total
APPLICABLE ONLY TO PWG&C CONTRACTS: The Contract Authority signature is required when the total value of the DND 626 exceeds the threshold specified in the contract. NE S'APPLIQUE QU'AUX CONTRATS DE TP&GC : La signature de l'autorité contractante est requise lorsque la valeur totale du formulaire DND 626 est supérieure au seuil précisé dans le contrat.		
_____ for the Department of Public Works and Government Services pour le ministère des Travaux publics et services gouvernementaux		

DND 626 (01-05)

Design: Form Management 003-4010
Conception: Gestion des formulaires 003-4010