

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 NUMERICAL MODELING AND SIMULATION	
Solicitation No. - N° de l'invitation W7701-135616/A	Date 2013-10-30
Client Reference No. - N° de référence du client W7701-135616	
GETS Reference No. - N° de référence de SEAG PW-\$QCL-032-15684	
File No. - N° de dossier QCL-2-35608 (032)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-11-15	Time Zone Fuseau horaire Heure Avancée de l'Est HAE
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: Boudrias, Marie-M.	Buyer Id - Id de l'acheteur qcl032
Telephone No. - N° de téléphone (418) 649-2806 ()	FAX No. - N° de FAX (418) 648-2209
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: R & D DEFENSE CANADA - VALCARTIER BATIMENT 53 2459 BLVD PIE XI NORD C.P.8800 VAL BELAIR Québec G3J1X5 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

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

Issuing Office - Bureau de distribution

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

Delivery Required - Livraison exigée VOIR TEXTE	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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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 and Other Requirements: includes specific requirements that must be addressed by bidders; and
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work (annex A), the Basis of Payment (annex B), the Security Requirements Check List (annex C), the DND 626, Task Authorization Form (annex D) and the Contractor Disclosure of Foreground Information form (annex E)

2. Summary

(a) Title

Numerical modeling and simulation.

(b) Objectives

The general objectives of this task authorization (TA) contract are to provide technical services in numerical modeling and simulation and to provide technical advices and training on softwares related to numerical modeling and simulations. The numerical simulations include engineering design analysis, structural finite element analysis and vulnerability/lethality analysis. These studies will be mainly realized to evaluate protection systems against different threats such as landmine, blast, and impact/shock and to orient the choice of experimental tests to be conducted at DRDC (Defence Research and Development Canada) Valcartier. The military platforms/targets under study include but are not limited to, simple systems such as metallic plates, to complex ones such as land vehicles, ships and personnel.

(c) Tasks

The six tasks described below explain in general the type of work to be executed by the contractor under this task authorization contract.

Task 1 : Provide Computational Fluid Dynamics (CFD) loadings to structural dynamics simulations

Task 2: Finite element simulation of platform design and personnel protection equipment

Task 3: Development of specialised algorithms and interfaces

Task 4: Improvement of soil constitutive models

Task 5: Application and modifications of Vulnerability/Lethality tools to scenarios involving personnel, military platforms and weapons systems

Task 6: General engineering services

(d) Period of the contract

The period of the Contract is from the date of the contract to March 31, 2017.

(e) Intellectual property

Canada has determined that any intellectual property rights arising from the performance of the Work under the resulting contract will belong to Canada

(f) Security requirement

There is a security requirement associated with this requirement. For additional information, consult Part 6 - Security, Financial and Other Requirements, and Part 7 - Resulting Contract Clauses. 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.

(g) Federal Contractors Program (FCP)

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

(h) Other information

This procurement is subject to the Controlled Goods Program.

This procurement is conditionally limited to Canadian services.

The requirement is subject to the provisions of the Agreement on Internal Trade (AIT).

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 (2013-06-01) 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 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 or e-mail 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 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 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.

5. Improvement of Requirement During Solicitation Period

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least five (5) days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

6. Basis for Canada's Ownership of Intellectual Property

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 Treasury Board, granted Defence Research and Development Canada exemption from the Treasury Board Policy on "Title to Intellectual Property Arising Under Crown Procurement Contracts"

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, DVD or USB key)
- Section II : Financial Bid (1 hard copy)
- Section III : Certifications (1 hard copy)
- Section IV : Additional Information (1 hard copy)

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>). To assist Canada in reaching its objectives, bidders should:

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

Section I : Technical Bid

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

The technical bid should clearly address and in sufficient depth the points that are subject to the evaluation criteria (see section 1.1 of Part 4 and attachment 2 Mandatory and Point Rated Technical 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 each year of the contract period.

The total amount of the applicable taxes is to be shown separately, if applicable.

The firm rates included in the Basis of Payment exclude the equipment, the rentals, the materials and supplies, the travel and living expenses and the subcontracts (except for labour).

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

- (b) Prices must be in Canadian funds, Canadian customs duties and excise taxes included, and the other applicable taxes are extra.

1.2 Exchange Rate Fluctuation

C3011T (2010-01-11), Exchange Rate Fluctuation

Section III: Certifications

Bidders must submit the certifications required under Part 5.

Section IV: Additional Information

1.1 Former Public Servant

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts with FPS, bidders must provide the information required below before contract award.

Definitions

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

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

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the

implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

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

Former Public Servant in Receipt of a Pension

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

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

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

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

Work Force Adjustment Directive

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

If so, the Bidder must provide the following information:

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

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

Solicitation No. - N° de l'invitation

W7701-135616/A

Amd. No. - N° de la modif.

File No. - N° du dossier

QCL-2-35608

Buyer ID - Id de l'acheteur

qcl032

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

W7701-135616

CCC No./N° CCC - FMS No/ N° VME

1.2 Bidder's Proposed Site or Premises Requiring Safeguard Measures

As indicated in Part 6 under Security Requirement, the Bidder must provide the required information below, on the Bidder's proposed site or premises for which safeguard measures are required for Work Performance.

Address:

Street Number / Street Name, Unit / Suite / Apartment Number:

City, Province, Territory / State:

Postal Code / Zip Code:

Country:

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.
- (c) The evaluation team will determine first if there are three (3) or more bids with a valid Canadian Content certification. In that event, the evaluation process will be limited to the bids with the certification; otherwise, all bids will be evaluated. If some of the bids with a valid certification are declared non-responsive, or are withdrawn, and less than three responsive bids with a valid certification remain, the evaluation will continue among those bids with a valid certification. If all bids with a valid certification are subsequently declared non-responsive, or are withdrawn, then all the other bids received will be evaluated.

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 2, Mandatory and Point Rated Technical Criteria.

1.1.2 Point Rated Technical Criteria

Refer to Attachment 2, 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 applicable taxes excluded, FOB destination, Canadian customs duties and excise taxes included.

For evaluation purposes only, the price of the bid will be determined as detailed in Attachment 3, Evaluation of Price.

2. Basis of Selection

2.1 Basis of Selection - Highest Combined Rating of Technical Merit and Price

1. To be declared responsive, a bid must:
 - (a) comply with all the requirements of the bid solicitation;
 - (b) meet all mandatory criteria;
 - (c) obtain the required minimum points for each group of criteria with a pass mark, and
 - (d) obtain the required minimum of 60 points overall for the technical evaluation criteria which are subject to point rating. The rating is performed on a scale of 130 points.
2. Bids not meeting (a) or (b) or (c) or (d) will be declared non-responsive.
3. The evaluation will be based on the highest responsive combined rating of technical merit and price. The ratio will be 60% for the technical merit and 40% for the price.
4. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 60%.
5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 40%.
6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
7. Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract.

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 60/40 ratio of technical merit and price, *respectively*. The total available points equals 130 and the lowest evaluated price is \$900,000 (90).

Basis of Selection - Highest Combined Rating Technical Merit (60%) and Price (40%)

	Bidder		
	Bidder 1	Bidder 2	Bidder 3
Overall Technical Score	115/130	89/130	92/130
Bid Evaluated Price	\$900,000.00	\$950,000.00	\$1,000,000.00
Technical Merit Score	$115/130 \times 60 = 53.08$	$89/130 \times 60 = 41.08$	$92/130 \times 60 = 42.46$
Pricing Score	$90/90 \times 40 = 40$	$90/95 \times 40 = 37.89$	$90/100 \times 40 = 36$
Combined Rating	93.08	78.97	78.46
Overall Rating	1st	2nd	3rd

PART 5 - CERTIFICATIONS

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

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

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

1. Mandatory Certifications Required Precedent to Contract Award

1.1 Code of Conduct and Certifications - Related documentation

By submitting a bid, the Bidder certifies that the Bidder and its affiliates are in compliance with the provisions as stated in Section 01 Code of Conduct and Certifications - Bid of Standard Instructions 2003. The related documentation therein required will assist Canada in confirming that the certifications are true.

1.2 Federal Contractors Program for Employment Equity - Bid Certification

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

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

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](#)" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed annex [Federal Contractors Program for Employment Equity - Certification](#), before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed annex [Federal Contractors Program for Employment Equity - Certification](#), for each member of the Joint Venture.

2. Additional Certifications Precedent to Contract Award and Certifications Required with the Bid

Bidders must submit the certifications as provided below.

2.1 Additional Certifications Precedent to Contract Award

The certifications in Attachment 4, 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.

2.2 Additional Certifications Required with the Bid

Bidders must complete and submit the certifications in Attachment 5, Certifications Required with the Bid, as part of their bid.

PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS

1. Security Requirement

1. At the date of bid closing, 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;
- (d) the Bidder's proposed location of work performance or document safeguarding must meet the security requirement as indicated in Part 7 - Resulting Contract Clauses;
- (e) **the Bidder must provide the address(es) of proposed location(s) of work performance or document safeguarding as indicated in Part 3 - Section IV Additional Information.**

- 2. 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 (2012-07-16), 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 A and the Contractor's technical bid entitled _____, dated _____ (to be completed by Canada at the contract award), 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

1.1.1 Task Authorization - Department of National Defence

The administration of the Task Authorization process will be carried out by **The Procurement and Payment group at Defence Research and Development Canada - Valcartier, represented by the DND Procurement Authority**. 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

Task Authorization:

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.

Task Authorization Process:

1. The DND 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 DND 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. When it is required by DND Procurement Authority, the contractor must also provide a technical proposal that must include one or many of the following items:
 - (a) a description of your comprehension of the objectives and the scope of the activities to be performed,

- (b) a description of the approach and methodology that will be used to perform the activities,
- (c) a description of the anticipated deliverables,
- (d) an estimation of the level of success anticipated for the activities to be performed,
- (e) the proposed derogation to the requirements,
- (f) the identification of the major risks and a mitigation plan for each of them,
- (g) a complete work schedule and a prioritization of the activities to be performed,
- (h) the resume of the proposed resources to perform the activities and a demonstration of their compliance with the requirement of the labour category for which the resource was proposed (see Annex A, statement of Work.)

4. The Contractor must not commence work until a TA authorized by the DND Procurement 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 DND Procurement Authority may authorize individual task authorizations up to a limit of **\$75,000.00**, applicables taxes included, inclusive of any revisions.

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

1.2 Disclosure Certification

On completion of the Work, the Contractor must submit to the Technical Authority and to the Contracting Authority a copy of the Disclosure Certification attached as Annex E stating that all applicable disclosures were submitted.

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

2040 (2013-06-27), 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
K3305C (2008-05-12) License to Intellectual Property Rights in Foreground Information.

3. Security Requirement

3.1 The following security requirement (SRCL and related clauses) applies and form part of the Contract

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, with approved Document Safeguarding 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 Canadian PROTECTED/ CLASSIFIED information, assets or sensitive work site(s) must EACH hold a valid RELIABILITY STATUS, CONFIDENTIAL or SECRET clearance, as required, granted or approved by CISD/PWGSC.

The Contractor/Offeror personnel requiring access to NATO UNCLASSIFIED information or assets do not require to hold a personnel security clearance; however, the Contractor must ensure that the NATO Unclassified information is not releasable to third parties and that the "need to know" principle is applied to personnel accessing this information

The Contractor personnel requiring access to NATO RESTRICTED information or assets must be citizens of a NATO member country or a permanent resident of Canada and EACH hold a valid RELIABILITY STATUS, CONFIDENTIAL, SECRET clearance or its equivalent, as required, granted or approved by a NATO national security authority.

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.

3. This contract includes access to controlled goods. Prior to access, the contractor must be registered in the Controlled Goods Program of Public Works and Government Services Canada.
4. The Contractor MUST NOT utilize its Information Technology systems to electronically process, produce or store any sensitive PRPOTECTED/CLASSIFIED information until CISD/ PWGSC has issued written approval. After approval has been granted, these tasks may be performed at the level of SECRET (and an IT Link at the level of Protected B).
5. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.
6. The Contractor/Offeror must comply with the provisions of the:

-
- (a) Security Requirements Check List and security guide, attached at Annex C;
 - (b) Industrial Security Manual (Latest Edition);
 - (c) The processing of Sensitive Information - IT Security Requirements, attached at Annex G.

3.2 Contractor's Site or Premises Requiring Safeguard Measures

The Contractor must diligently maintain up-to-date, the information related to the Contractor's site or premises, where safeguard measures are required in the performance of the Work, for the following addresses:

*Address: (to be completed by Canada at the contract award)
Street Number / Street Name, Unit / Suite / Apartment Number
City, Province, Territory / State
Postal Code / Zip Code
Country*

4. Term of Contract

4.1 Period of Contract

The period of the Contract is from date of Contract to March 31, 2017.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Marie-Michèle Boudrias
Supply agent
Public Works and Government Services Canada
1550, d'Estimauville avenue
Quebec, Quebec, G1J 0C7

Telephone: 418-649-2806
Facsimile: 418-648-2209
E-mail address: marie-michele.boudrias@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.

5.2 Technical Authority (to be completed by Canada at the contract award)

The Technical Authority for the Contract is:

Name : _____
 Organization : _____
 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 (to be completed by the contractor)**Administrative representative :**

Name : _____
 Telephone : _____
 Facsimile : _____
 Email : _____

Technical representative :

Name : _____
 Telephone : _____
 Facsimile : _____
 Email : _____

5.4 DND Procurement Authority (to be completed by Canada at the contract award)

The DND Procurement Authority for the Contract is:

Name : _____
 Organization : _____
 Telephone: _____
 E-mail address: _____

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

6. Proactive Disclosure of Contracts with Former Public Servants

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

7. Payment

7.1 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 Unit Price(s) or 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 price in accordance with the basis of payment, in Annex B, as specified in the authorized TA. Customs duties are included and the applicable taxes are extra.

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 the applicable taxes are extra.

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 Technical Authority or 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 in 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 the applicable taxes are extra.

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.

7.2 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% of the Maximum Contract Value.

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.

7.3 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 **\$950,000.00**. Customs duties are included and the applicable taxes are extra.
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.

7.4 Method of Payment

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

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

7.4.2.1 Single Payment (For a Firm Price TA, TA subject to a Limitation of Expenditure or a Ceiling Price)

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 claim for payment using PWGSC-TPSGC 1111, Claim for Progress Payment, 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;
- (d) all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives.

7.4.2.2 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 claim for payment using PWGSC-TPSGC 1111, Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- (b) all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives;
- (c) all work associated with the milestone and as applicable any deliverable required has been completed and accepted by Canada.

7.4.2.3 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 claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
 - (ii) the amount claimed is in accordance with the basis of payment;
 - (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 Contract;
 - (iv) all certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives.
- (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.

7.5 SACC Manual Clauses

A9117C (2007-11-30), T1204 - Direct Request by Customer Department
 C2000C (2007-11-30), Taxes - Foreign-based Contractor (to be deleted if the contractor is a canadian contractor.)
 C0305C (2008-05-12), Cost Submission

7.6 Discretionary Audit

SACC Manual Clause C0705C (2010-01-11), Discretionary Audit

8. 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 description and value of the milestone claimed as detailed in the TA (for TA with milestone payments).

2. Each claim for a TA subject to a Limitation of Expenditure or a Ceiling Price 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 invoices, receipts, vouchers for all direct expenses, and all travel and living expenses;
 - (d) a copy of the monthly progress report.
3. Applicable Taxes 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 Applicable Taxes payable as it was claimed and payable under the previous claims for progress payments.
4. The Contractor must prepare and certify one original and two (2) copies of the claim on form PWGSC-TPSGC 1111, and forward it to the following address for certification.

ATTN : Micheline Cauchon-Gravel
 Public Works and Government Services Canada
 601-1550 Avenue D'Estimauville
 Québec, Québec, G1J 0C7

The Contracting Authority will then forward the original and two (2) copies of the claim to the Technical Authority for certification and onward submission to the Payment Office for the remaining certification and payment action.

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

9. Certifications

9.1 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 entire contract period. 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.

9.2 SACC Manual Clauses

A3060C (2008-05-12), Canadian Content Certification (to be deleted if the successful bidder has not completed and submitted a Canadian content certification)

10. 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).

11. 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 (2013-06-27), General Conditions - Research and Development;
- (d) Annex A, Statement of Work;
- (e) Annex B, Basis of Payment;
- (f) Annex C, Security Requirements Check List;
- (g) Annex D, DND 626, Task Authorization Form;
- (h) Annex E, Contractor Disclosure of Foreground Information;
- (i) Annex F, Federal Contractors Program for Employment Equity - Certification
- (j) Annex G, Processing of Sensitive Information - IT Security Requirements
- (k) the signed Task Authorizations (including all of its annexes, if any);
- (l) the Contractor's bid dated _____ (insert date of bid)

12. Defence Contract

SACC Manual clause A9006C (2012-07-16), Defence Contract

13. Foreign Nationals (Canadian Contractor) - to be deteted if the contractor is a foreign contractor

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

OR

13. Foreign Nationals (Foreign Contractor) - to be deteted if the contractor is a canadian contractor

SACC Manual clause A2001C (2006-06-16), Foreign Nationals (Foreign Contractor)

14. Insurance

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

15. Controlled Goods Program

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

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

16. 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 two 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.

17. Site Regulations

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

18. Identification Badge

SACC manual clauses A9065C (2006-06-16) Identification Badge

ATTACHMENT 1**FINANCIAL BID PRESENTATION SHEET**

1. LABOUR: at firm all-inclusive rates, applicable taxes are extra, in accordance with the following:

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

Labour Category	Firm Hourly Rate			
	Date of the contract award to 31 March 2014	From 2014-04-01 to 2015-03-31	From 2015-04-01 to 2016-03-31	From 2016-04-01 to the end of the contract period
Senior engineer	\$	\$	\$	\$
Engineer	\$	\$	\$	\$
Junior engineer	\$	\$	\$	\$
Technician	\$	\$	\$	\$

Bidders should note that all the labour category are described at section 8. Labour Categories required to perform the work of Annex A - Statement of work

Items 2 through 7 below must not be included in Bidder's rates (see section 1. Labour)

2. EQUIPMENT: at laid down cost without markup
3. RENTALS: at actual cost without markup
4. MATERIALS AND SUPPLIES: at laid down cost without markup
5. SUBCONTRACTS: at actual cost without markup
6. TRAVEL & LIVING: 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.
7. OTHER DIRECT CHARGES: at actual cost without markup

**TOTAL ESTIMATED COST TO A LIMITATION OF EXPENDITURE: \$950,000.00
(applicable taxes are extra)**

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ATTACHMENT 2

MANDATORY AND POINT RATED TECHNICAL CRITERIA

The mandatory and point rated technical criteria (attachment 2) appended to the bid solicitation package is to be inserted at this point and forms part of this document.

ATTACHMENT 3**EVALUATION OF PRICE**

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

The estimated level of effort specified bellow 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.

Labour Category	Estimated amount of effort per labour category and per each year of the contract			
	Date of the contract award to 31 March 2014	From 2014-04-01 to 2015-03-31	From 2015-04-01 to 2016-03-31	From 2016-04-01 to the end of the contract period
Senior engineer	413 hours	413 hours	413 hours	413 hours
Engineer	679 hours	679 hours	679 hours	679 hours
Junior engineer	1,118 hours	1,118 hours	1,118 hours	1,118 hours
Technician	297 hours	297 hours	297 hours	297 hours

Step 1. Determining the cost of each proposed labour category for each year of the contract. The following calculation will be used for each labour category and for each year of the contract:

[estimated amount of effort for the labour category and for the year of the contract (see the above table)]
X [firm all-inclusive hourly rate submitted for the same labour category and the same year of the contract]

Step 2. Determine the evaluation price of the bid. To obtain the total value of the bid, the costs for each proposed labour category for each year of the contract period (calculated in Step 1) included in the same bid will be added together.

Example of Calculation :

N.B.: The firm all inclusive hourly rates are not not real and have been used for example's sake only. In the example bellow, the lowest evaluated price would be the price of bid 1.

Labour Categories	Estimated amount of effort	Bid 1		Bid 2	
		Firm all inclusive hourly rates	Extended Price	Firm all inclusive hourly rates	Extended Price
For the firm all-inclusive hourly rates from the date of the contract to March 31, 2014					
Senior Engineer	413 hours	\$100.00	\$41,300.00	\$115.00	\$47,495.00
Engineer	679 hours	\$90.00	\$61,110.00	\$105.00	\$71,295.00
Junior Engineer	1,118 hours	\$80.00	\$89,440.00	\$85.00	\$95,030.00
Technician	297 hours	\$75.00	\$22,275.00	\$80.00	\$23,760.00
For the firm all-inclusive hourly rates from April 1, 2014 to March 31, 2015					
Senior Engineer	413 hours	\$102.00	\$42,126.00	\$115.00	\$47,495.00
Engineer	679 hours	\$92.00	\$62,468.00	\$105.00	\$71,295.00
Junior Engineer	1,118 hours	\$82.00	\$91,676.00	\$85.00	\$95,030.00
Technician	297 hours	\$77.00	\$22,869.00	\$80.00	\$23,760.00
For the firm all-inclusive hourly rates from April 1, 2015 to March 31, 2016					
Senior Engineer	413 hours	\$104.00	\$42,952.00	\$115.00	\$47,495.00
Engineer	679 hours	\$94.00	\$63,826.00	\$105.00	\$71,295.00
Junior Engineer	1,118 hours	\$83.00	\$92,794.00	\$85.00	\$95,030.00
Technician	297 hours	\$78.00	\$23,166.00	\$80.00	\$23,760.00
For the firm all-inclusive hourly rates from April 1, 2016 to the end of the contract period					
Senior Engineer	413 hours	\$106.00	\$43,778.00	\$115.00	\$47,495.00
Engineer	679 hours	\$96.00	\$65,184.00	\$105.00	\$71,295.00
Junior Engineer	1,118 hours	\$85.00	\$95,030.00	\$85.00	\$95,030.00
Technician	297 hours	\$80.00	\$23,760.00	\$80.00	\$23,760.00
Evaluation Price of the bid :			\$883,754.00		\$950,320.00

ATTACHMENT 4

CERTIFICATIONS PRECEDENT TO CONTRACT AWARD

1. 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. 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.

3. Language Capability

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

ATTACHMENT 5

CERTIFICATIONS REQUIRED WITH THE BID

1. Canadian Content Certification

This procurement is conditionally limited to Canadian services.

Subject to the evaluation procedures contained in the bid solicitation, bidders acknowledge that only bids with a certification that the service offered is a Canadian service, as defined in clause A3050T, may be considered.

Failure to provide this certification completed with the bid will result in the service offered being treated as a non-Canadian service.

The Bidder certifies that:

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

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

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qcl032

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ANNEX A

STATEMENT OF WORK

The Statement of Work (Annex A) appended to the bid solicitation package is to be inserted at this point and forms part of this document.

ANNEX B**BASIS OF PAYMENT**

(to be completed by Canada at the contract award)

1. LABOUR: at the following firm, all-inclusive, hourly rates

Labour Category	Firm Hourly Rate			
	Date of the contract award to 31 March 2014	From 2014-04-01 to 2015-03-31	From 2015-04-01 to 2016-03-31	From 2016-04-01 to the end of the contract period
Senior engineer	\$	\$	\$	\$
Engineer	\$	\$	\$	\$
Junior engineer	\$	\$	\$	\$
Technician	\$	\$	\$	\$

2. EQUIPMENT: at laid down cost without markup**3. RENTALS:** at actual cost without markup**4. MATERIALS AND SUPPLIES:** at laid down cost without markup**5. TRAVEL AND LIVING EXPENSES:**

The Contractor will be reimbursed for the authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for overhead or profit, in accordance with the meal, private vehicle and incidental expense allowances specified in Appendices B, C and D of the Travel Directive, and with the other provisions of the directive referring to "travellers", rather than those referring to "employees".

All travel must have the prior authorization of the Technical Authority.

6. SUBCONTRACTS: at actual cost without markup**7. OTHER DIRECT CHARGES:** at actual cost without markup

Estimated Cost to a Limitation of Expenditure: \$950,000.00
(applicable taxes are 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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qc1032

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ANNEX C

SECURITY REQUIREMENTS CHECK LIST

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

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qcl032

CCC No./N° CCC - FMS No/ N° VME

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ANNEX D

FORM DND 626, *TASK AUTHORIZATION*

The *Form DND 626, Task Authorization* appended to the Solicitation file is to be inserted at this point and forms part of this document.

ANNEX E

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)

ANNEX F**FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - CERTIFICATION**

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

For further information on the Federal Contractors Program for Employment Equity visit HRSDC-Labour's website.

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

Complete both A and B.**A. Check only one of the following:**

- () A1. The Bidder certifies having no work force in Canada.
- () A2. The Bidder certifies being a public sector employer.
- () A3. The Bidder certifies being a federally regulated employer being subject to the *Employment Equity Act*.
- () A4. The Bidder certifies having a combined work force in Canada of less than 100 employees (combined work force includes: permanent full-time, permanent part-time and temporary employees [temporary employees only includes those who have worked 12 weeks or more during a calendar year and who are not full-time students]).
- A5. The Bidder has a combined workforce in Canada of 100 or more employees; and

() A5.1. The Bidder certifies already having a valid and current Agreement to Implement Employment Equity (AIEE) in place with HRSDC-Labour.

OR

() A5.2. The Bidder certifies having submitted the Agreement to Implement Employment Equity (LAB1168) to HRSDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to HRSDC-Labour.

B. Check only one of the following:**OR**

() B1. The Bidder is not a Joint Venture.

() B2. The Bidder is a Joint venture and each member of the Joint Venture must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions)

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File No. - N° du dossier

QCL-2-35608

Buyer ID - Id de l'acheteur

qcl032

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

W7701-135616

CCC No./N° CCC - FMS No/ N° VME

ANNEX G

PROCESSING OF SENSITIVE INFORMATION - IT SECURITY REQUIREMENTS

The *processing of sensitive of sensitive information - IT security requirements* document appended to the Solicitation file is to be inserted at this point and forms part of this document.

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.

1.1 CFD code

A 3D CFD code must be available to the bidder to generate blast and landmine loadings in a format compatible with LS-DYNA or that can be coupled to LS-DYNA code. The CFD code must model shock waves realistically.

In order to demonstrate its compliance with this criterion, the bidder must present and explain how the CFD code to be used works and must explain how the CFD code was validated with experimental data by providing a short summary (approximately 1 page) and by giving reference(s) of reports and/or scientific papers (title of the report, date published, number of pages, authors, and any other relevant information) to prove the accomplishment of the work. The bidder must also demonstrate that it is possible to couple the CFD code with LS-DYNA.

2. Point rated technical criteria

A. Summary

The complete description of the criteria and their evaluation scale are available at section B. Description.

Point rated technical criteria	Max	Min
2.1 Technical Proposal	15	6
2.1.1 Understanding of the 'Statement of Work'	15	6
2.2 Experience of the bidder's resources	40	16
2.2.1 Senior Engineer labour category	10	4
2.2.2 Engineer labour category	10	4
2.2.3 Junior Engineer labour category	10	4
2.2.4 Technician labour category	10	4
2.3 Bidder's Experience	40	10
<i>2.3.1 Bidder's experience in performing projects in a field related to the resulting contract tasks</i>	35	NA
2.3.1.1 Bidder's experience in performing projects in a field related to Task 1: Provide CFD loadings to structural dynamics simulations (see the complete description of task 1 at Annex A – Statement of Work)	10	NA
2.3.1.2 Bidder's experience in performing projects in a field related to Task 2: Structural analysis of platform design and personnel protection equipment (see the complete description of task 2 at Annex A – Statement of Work)	10	NA
2.3.1.3 Bidder's experience in performing projects in a field related to Task 3: Development of specialised algorithms and of interfaces for FE packages (see the complete description of task 3 at Annex A – Statement of Work)	5	NA
2.3.1.4 Bidder's experience in performing projects in a field related to Task 4: Improvement of soil constitutive models (see the complete description of task 4 at Annex A – Statement of Work)	5	NA
2.3.1.5 Bidder's experience in performing projects in a field related to Task 5: Application of Vulnerability/lethality tools to scenarios involving personnel and structural vulnerability (see the complete description of task 5 at Annex A – Statement of Work)	5	NA
2.3.2 Bidder's experience in performing projects in a field related to numerical modeling and simulation implying military platforms.	5	NA
2.4 Vulnerability/Lethality code	5	NA

Point rated technical criteria	Max	Min
2.5 Management proposal	30	12
2.5.1 Personnel and task management method	10	4
2.5.1.1 Management method	5	NA
2.5.1.2 Tools used	5	NA
2.5.2 Work plan and schedule development method	10	4
2.5.2.1 Work plan and schedule development method	5	NA
2.5.2.2 Demonstration of effectiveness:	5	NA
2.5.3 Quality control process and Workflow management method	10	4
2.5.3.1 Workflow management method	5	NA
2.5.3.2 Quality control process:	5	NA
Total	130	60

B. Description

2. Point rated technical criteria	Evaluation scale	Max	Min
2.1 Technical Proposal		15	6
<p>2.1.1 Understanding of the 'Statement of Work'</p> <p>The bidder should demonstrate its understanding of the 'Statement of Work' by providing in its own words a convincing demonstration of its understanding of the context, scope and objectives of the resulting contract. The demonstrated understanding of the context, scope and objectives should be complete and should not be limited to the description of the statement of work.</p> <p>The understanding of the three elements (context, scope and objectives) will be evaluated independently. The score given will be the average of the individual scores for the three elements.</p> <p>Example of calculation : The score of the bidder is as follows :</p> <ul style="list-style-type: none"> - 15 points for context - 12 points for scope - 6 points for objectives <p>The total score of the bidder for criterion 2.1.1 is $(15+12+6)/3 = 11$ points.</p>	<p>EXCELLENT – 15 pts</p> <p>VERY GOOD – 12 pts</p> <p>GOOD – 9 pts</p> <p>ACCEPTABLE – 6 pts</p> <p>WEAK – 3 pts</p> <p>INADEQUATE – 0 point</p> <p>Please note that the definition of each element of the evaluation scale is available at the end of this attachment.</p>	15	6
<p>2.2 Experience of the bidder's resources</p> <p>To enable the evaluation team to properly evaluate the following criteria, the bidder should provide the CV of each resource proposed to meet each criterion of this section. The CVs should clearly, explicitly and indisputably demonstrate that the proposed resources meet the minimum requirement with regards to the education and experience of the labour category. The minimum requirements associated with each labour category are described at section 8. Labour categories required to perform the work of Annex A – Statement of Work.</p> <p>The bidder should also support each working experience by presenting project in which the proposed resources acquire their experience. For each project described, the bidder should at least include the following information: the title, the objectives, the scope, the project periods (month and year of the beginning and month and year of the end), the exact dates of the involvement and the role of the proposed resource in the project, the tasks performed by the proposed resource and any other relevant information.</p>		40	16

2. Point rated technical criteria	Evaluation scale	Max	Min
<p>The same resource may be proposed in more than one labour category and will thus be evaluated for each of those categories.</p> <p>If a bidder cannot propose resources for each category, subcontractors should be identified. The same information should be provided for the subcontractors' resources, and the same evaluation method will apply.</p>			
<p>2.2.1 Senior Engineer labour category</p> <p>The bidder should demonstrate that he has resources available for this contract in the Senior Engineer labour category. Please note that the complete description of this labour category is available at section 8 of annex A.</p>	<p>10 pts: the bidder demonstrates that he has 4 or more available resources in this labour category.</p> <p>7 pts: the bidder demonstrates that he has 3 available resources in this labour category.</p> <p>4 pts: the bidder demonstrates that he has 2 available labour resource in this category</p> <p>0 pt: Any other situation.</p>	10	4
<p>2.2.2 Engineer labour category</p> <p>The bidder should demonstrate that he has resources available for this contract in the Engineer labour category. Please note that the complete description of this labour category is available at section 8 of annex A.</p>	<p>10 pts: the bidder demonstrates that he has 4 or more available resources in this labour category.</p> <p>7 pts: the bidder demonstrates that he has at least 3 available resources in this labour category.</p>	10	4

2. Point rated technical criteria	Evaluation scale	Max	Min
	<p>4 pts: the bidder demonstrates that he has 2 available resources in this labour category.</p> <p>0 pt: Any other situation.</p>		
<p>2.2.3 Junior Engineer labour category</p> <p>The bidder should demonstrate that he has resources available for this contract in the Junior Engineer labour category. Please note that the complete description of this labour category is available at section 8 of annex A.</p>	<p>10 pts: the bidder demonstrates that he has 4 or more available resources in this labour category.</p> <p>7 pts: the bidder demonstrates that he has at least 3 available resources in this labour category.</p> <p>4 pts: the bidder demonstrates that he has 2 available resources in this labour category.</p> <p>0 pt: Any other situation.</p>	10	4
<p>2.2.4 Technician labour category</p> <p>The bidder should demonstrate that he has resources available for this contract in the Technician labour category. Please note that the complete description of this labour category is available at section 8 of annex A.</p>	<p>10 pts: the bidder demonstrates that he has 4 or more available resources in this labour category.</p> <p>7 pts: the bidder demonstrates that he has at least 3 available resources this labour category.</p> <p>4 pts: the bidder</p>	10	4

2. Point rated technical criteria	Evaluation scale	Max	Min
	<p>demonstrates that he has 2 available resources in this labour category.</p> <p>0 pt: Any other situation.</p>		
<p>2.3 Bidder's Experience</p> <p>For each criterion of this section, the bidder should demonstrate its experience by describing passed projects related to the evaluation criteria, which pertains mostly to the following information:</p> <ul style="list-style-type: none"> a. the topic, the context, the objectives and the scope of the project, b. the project periods (exact month and year of the beginning and exact month and year of the end), c. the exact dates of the involvement of the bidder in the project, d. the role(s) of the bidder in the project (prime contractor, subcontractor, etc.), e. the budget, f. the name of the client , g. the number of resource (equivalent of full-time employee) involved in the project for each year of the project, h. any other relevant information. <p>A project will be considered by the evaluation team only if the bidder demonstrates that the project involved the equivalent of at least one full-time employee working on the project for at least one year and meet the related criterion.</p>		40	10
<p>2.3.1 Bidder's experience in performing projects in a field related to the resulting contract tasks</p>		35	NA

2. Point rated technical criteria	Evaluation scale	Max	Min
<p>2.3.1.1 Bidder's experience in performing projects in a field related to Task 1: Provide CFD loadings to structural dynamics simulations (see the complete description of task 1 at Annex A – Statement of Work)</p>	<p>10 pts: The bidder has completed more than 4 projects in this area. 8 pts: The bidder has completed 4 projects in this area 6 pts: The bidder has completed 3 projects in this area 4 pts: The bidder has completed 2 projects in this area 2 pts: The bidder has completed 1 project in this area 0 pt: Any other situation.</p>	10	NA
<p>2.3.1.2 Bidder's experience in performing projects in a field related to Task 2: Structural analysis of platform design and personnel protection equipment (see the complete description of task 2 at Annex A – Statement of Work)</p>	<p>10 pts: The bidder has completed more than 4 projects in this area. 8 pts: The bidder has completed 4 projects in this area 6 pts: The bidder has completed 3 projects in this area 4 pts: The bidder has completed 2 projects in this area 2 pts: The bidder has completed 1 project in this area 0 point: Any other situation.</p>	10	NA

2. Point rated technical criteria	Evaluation scale	Max	Min
<p>2.3.1.3 Bidder's experience in performing projects in a field related to Task 3: Development of specialised algorithms and of interfaces for FE packages (see the complete description of task 3 at Annex A – Statement of Work)</p>	<p>5 pts: The bidder has completed 3 or more projects in this area. 3 pts: The bidder has completed 2 projects in this area. 1 pt: The bidder has completed 1 project in this area 0 pt: Any other situation.</p>	5	NA
<p>2.3.1.4 Bidder's experience in performing projects in a field related to Task 4: Improvement of soil constitutive models (see the complete description of task 4 at Annex A – Statement of Work)</p>	<p>5 pts: The bidder has completed 3 or more projects in this area. 3 pts: The bidder has completed 2 projects in this area. 1 pt: The bidder has completed 1 project in this area 0 pt: Any other situation.</p>	5	NA
<p>2.3.1.5 Bidder's experience in performing projects in a field related to Task 5: Application of Vulnerability/lethality tools to scenarios involving personnel and structural vulnerability (see the complete description of task 5 at Annex A – Statement of Work)</p>	<p>5 pts: The bidder has completed 3 or more projects in this area. 3 pts: The bidder has completed 2 projects in this area. 1 pt: The bidder has completed 1 project in this area 0 pt: Any other situation.</p>	5	NA
<p>2.3.2 Bidder's experience in performing projects in a field related to numerical modeling and simulation implying military platforms.</p>	<p>5 pts: The bidder has completed 3 or more projects in this area. 3 pts: The bidder</p>	5	NA

2. Point rated technical criteria	Evaluation scale	Max	Min
	<p>has completed 2 projects in this area. 1 pt: The bidder has completed 1 project in this area 0 pt: Any other situation.</p>		
<p>2.4 Vulnerability/Lethality code</p> <p>The bidder should have access to a vulnerability/lethality code which must include injury criteria for personnel such as over-pressure-related lethality (Bowen curves for lung or ear injuries, Axelsson chest response model).</p> <p>In order to demonstrate its compliance with this criterion, the bidder should demonstrate the personnel injury criteria that are available in the code.</p>	<p>5 pts: The bidder has access to a vulnerability/lethality code with three injury criteria for personnel 3 pts: The bidder has access to a vulnerability/lethality code with two injury criteria for personnel 1 pt: The bidder has access to a vulnerability/lethality code with one injury criteria for personnel 0 pt: Any other situation.</p>	5	NA
2.5 Management proposal		30	12
2.5.1 Personnel and task management method		10	4
<p>2.5.1.1 Management method:</p> <p>The management method described by the bidder should be realistic and take into account each of the following elements: contingency management, availability of proposed resources, work overload, and the unpredictable context specific to TA contracts.</p>	<p>EXCELLENT – 5 pts VERY GOOD – 4 pts GOOD – 3 pts ACCEPTABLE – 2 pts WEAK – 1 pt</p>	5	NA

2. Point rated technical criteria	Evaluation scale	Max	Min
	INADEQUATE – 0 pt Please note that the definition of each element of the evaluation scale is available at the end of this attachment.		
2.5.1.2 Tools used: The bidder should describe the planning and control tools that will used to enable an efficient management methodology.	EXCELLENT – 5 pts VERY GOOD – 4 pts GOOD – 3 pts ACCEPTABLE – 2 pts WEAK – 1 pt INADEQUATE – 0 pt Please note that the definition of each element of the evaluation scale is available at the end of this attachment.	5	NA
2.5.2 Work plan and schedule development method The bidder should describe its proposed work plan and schedule development method and demonstrate its effectiveness.		10	4

2. Point rated technical criteria	Evaluation scale	Max	Min
<p>2.5.2.1 Work plan and schedule development method</p> <p>The bidder should describe its proposed work plan and schedule development method. The bidder should describe how its work plan and schedule development method take into account the risk elements of the project and the unpredictable nature of a task authorization contract.</p>	<p>EXCELLENT – 5 pts</p> <p>VERY GOOD – 4 pts</p> <p>GOOD – 3 pts</p> <p>ACCEPTABLE – 2 pts</p> <p>WEAK – 1 pt</p> <p>INADEQUATE – 0 pt</p> <p>Please note that the definition of each element of the evaluation scale is available at the end of this attachment.</p>	5	NA
<p>2.5.2.2 Demonstration of effectiveness:</p> <p>The bidder should clearly demonstrate that its work plan and schedule development method has been successfully applied and tested in previous projects.</p>	<p>EXCELLENT – 5 pts</p> <p>VERY GOOD – 4 pts</p> <p>GOOD – 3 pts</p> <p>ACCEPTABLE – 2 pts</p> <p>WEAK – 1 pt</p> <p>INADEQUATE – 0 pt</p> <p>Please note that the definition of each element of the evaluation scale is available at the end of this attachment.</p>	5	NA
<p>2.5.3 Quality control process and Workflow management method</p> <p>The bidder should describe its management method for overseeing the progress of the work and compliance with deadlines. It should also</p>		10	4

2. Point rated technical criteria	Evaluation scale	Max	Min
describe its quality control process and the tools to be used to ensure that deliverables meet requirements. Furthermore, it should demonstrate clearly and beyond a reasonable doubt that this method has been tested and shown to be effective in previous projects.			
<p>2.5.3.1 Workflow management method:</p> <p>The bidder should describe its workflow management method that takes into account risks, contingencies and compliance with deadlines</p> <p>The bidder should clearly demonstrate that its workflow management method have been successfully applied and tested in previous projects.</p>	<p>EXCELLENT – 5 pts</p> <p>VERY GOOD – 4 pts</p> <p>GOOD – 3 pts</p> <p>ACCEPTABLE – 2 pts</p> <p>WEAK – 1 pt</p> <p>INADEQUATE – 0 pt</p> <p>Please note that the definition of each element of the evaluation scale is available at the end of this attachment.</p>	5	NA
<p>2.5.3.2 Quality control process:</p> <p>The bidder should describe its quality control process that should at least include:</p> <ol style="list-style-type: none"> 1. Verification and validation of work performed 2. Validation of compliance with the client's requirements 3. Identification of future elements requiring improvement <p>The bidder should clearly demonstrate that quality control process have been successfully applied and tested in previous projects.</p>	<p>EXCELLENT – 5 pts</p> <p>VERY GOOD – 4 pts</p> <p>GOOD – 3 pts</p> <p>ACCEPTABLE – 2 pts</p> <p>WEAK – 1 pt</p> <p>INADEQUATE – 0 pt</p> <p>Please note that the definition of each element of the evaluation scale is available at the end of this attachment.</p>	5	NA

2. Point rated technical criteria	Evaluation scale	Max	Min
Total :		130	60

EVALUATION SCALE FOR THE POINT RATED TECHNICAL CRITERIA

INADEQUATE	WEAK	ACCEPTABLE	GOOD	VERY GOOD	EXCELLENT
<ul style="list-style-type: none"> Did not submit information which could be evaluated 	<ul style="list-style-type: none"> Lacks complete or almost complete understanding of the requirements 	<ul style="list-style-type: none"> Has some understanding of the requirements but lacks adequate understanding in some areas of the requirements 	<ul style="list-style-type: none"> Demonstrates a very good understanding of the requirements 	<ul style="list-style-type: none"> Demonstrates a very good understanding of the requirements 	<ul style="list-style-type: none"> Demonstrates an expert understanding of the requirements
	<ul style="list-style-type: none"> Weaknesses cannot be corrected 	<ul style="list-style-type: none"> Generally doubtful that weaknesses can be corrected 	<ul style="list-style-type: none"> Weaknesses can be easily corrected 	<ul style="list-style-type: none"> No significant weaknesses 	<ul style="list-style-type: none"> No apparent weaknesses
	<ul style="list-style-type: none"> Extremely poor, insufficient to meet performance requirements 	<ul style="list-style-type: none"> Little capability to meet performance requirements 	<ul style="list-style-type: none"> Minimum acceptable capability, should meet minimum performance 	<ul style="list-style-type: none"> Satisfactory capability, should ensure effective results 	<ul style="list-style-type: none"> Superior capability, should ensure very effective results

1. GENERAL

1.1 Title

Numerical modeling and simulations.

1.2 Objective

The general objectives of this task authorization (TA) contract are to provide technical services in numerical modeling and simulations and to provide technical advices and training on softwares related to numerical modeling and simulations. The numerical simulations include engineering design analysis, structural finite element analysis and vulnerability/lethality analysis. These studies will be mainly realized to evaluate protection systems against different threats such as landmine, blast, and impact/shock and to orient the choice of experimental tests to be conducted at DRDC (Defence Research and Development Canada) facilities. The military platforms/targets under study include but are not limited to, simple systems such as metallic plates, to complex ones such as land vehicles, ships and personnel.

1.3 Background

The Weapons Effects and Protection Section (WEP) of DRDC has a program on military vehicle and personnel protection, which encompasses different areas of expertise such as numerical simulation. The Canadian Forces routinely solicits DRDC to develop or improve military vehicle and personnel protection equipment and therefore, numerical simulations are extensively solicited to assist in the development of these protection systems.

Generally, the work to be performed by the contractor is to provide blast and landmine loading to simulate the structural response of vehicles (might be land, sea or air ones) and targets, and to simulate penetration problems. DRDC models structural response using finite element codes¹ while the loading is either produced, depending on the scenario, by an in-house code or by a commercial code, such as a Computational Fluid Dynamics (CFD) code.

Since the structural response of structure depends mainly on how accurate is air blast or landmine loading, DRDC Valcartier has investigated many methods over the years. One problem encountered until now is to get one that predict adequately the loading. A normal lagrangian code cannot usually model the shock propagation (peak pressure), the ejecta when presents and the multi-phase combustion, which makes it more difficult to get an accurate loading. Also, the modeling of landmines requires an understanding of soil physics at high strain rate. There is not much information in the open litterature on the type of soil actually tested at Valcartier (sandy gravel). To overcome these limitations and extend its expertise in these areas, DRDC looks forward to improve the modeling of threats such as landmines or blast Improvised Explosive Devices (IEDs). Another problem encountered by DRDC is that the loading of the finite element mesh model needs to be coupled to the LS-DYNA code (used by DRDC for the structural analysis) and this is not always an easy task. Naturally, the CFD code must interface with LS-DYNA code for both the air blast and landmine loading, since, over the years, DRDC Valcartier has developed an extensive database of FE target model² (for example, different Light Armoured Vehicles (LAVs)) and material properties that were designed especially for the LS-DYNA code. This database will have to be used occasionally by the contractor to conduct structural analyses. One exception remains the case of composite targets where the structural analysis could be performed with another code if necessary (e.g. Patran, Adina, etc.). Also, the contractor may be tasked to model dilute multi-phases explosives (e.g. thermobaric). It may have to realize analysis involving penetration of a target by a projectile and by fragments. Finally, the contractor may occasionally map the loadings on personnel lethality criteria and modify/extend existing simulations to include new criteria.

¹Such as LS-DYNA code

² Meshed models of the targets often generated from previously generated CAD models.

1.4 Acronymes

CAD	Computer Assisted Design
CF	Canadian Forces
CFD	Computational Fluid Dynamics
DND	Department of National Defense
DRDC	Defence Research & Development Canada
FE	Finite Elements
FEMAP	commercial finite element mesh generating program: see www.ugs.com
IED	Improvised Explosive Device
IP	Intellectual property
LAV	Light Armoured Vehicle
LS-DYNA	Main structural response code used by WEP section: see www.lstc.com
PPE	Personnel Protection Equipment
SOW	Statement of Work
R&D	Research and development
TA	Task authorization
WEP	Weapons Effects and Protection (section, DRDC Valcartier)

2. APPLICABLE DOCUMENTS (references)

Applicable documents may be associated to some TA. In those cases, the statement of work of the TA will provide the required information regarding the applicable documents.

3. SCOPE OF THE WORK

3.1 General

The six tasks described below explain in general the type of work to be executed by the contractor. The contractor may be tasked to perform one or a combination of the different tasks and subtasks. For each task authorization (TA) given under this contract, a detailed description of the work to be done will be provided to the contractor.

3.2 Mandatory tools required to perform tasks 1 to 6:

Whenever one or several tools described bellow are required, it will be specified in the TA.

(a)The CFD code used must be 3-D but sometimes, for particular cases, and with the approval of the technical authority, a 2-D model might be sufficient. The CFD code must also resolve the shock correctly, including attenuation, diffraction by obstacles, confinement and thermodynamic characteristics associated to airblast applicable to distances, sometimes as short as $0.3 \text{ m/kg}^{1/3}$.

(b)Different techniques of modeling will be used such as adapted mesh, mesh rezoning, ALE, SPH, etc. The technique to be used must be discussed with the technical authority. Given that some complex targets may have to be modeled and that relatively long event durations may have to be considered, run times must be kept acceptable. The definition of acceptable will depend on many parameters and will be specified, if necessary, in the TA.

- (c) The contractor must have access to a database of explosives properties (e.g. thermodynamics properties) and related equation of state properties since in most cases DRDC will not provide these data, unless for special cases (e.g. 'exotic' explosives, explosive setups, etc.). The reference of where those properties will be taken must be specified by the contractor in its proposal before the task is authorized (during the TA process).
- (d) Many materials will need to be modeled (metal, composites, gelatin, etc). Generally, the contractor will use material properties and constitutive laws found in the open literature unless specified otherwise in the TA. The reference of where those properties will be taken must be specified by the contractor in the TA. Sometimes, the technical authority could provide these data.
- (e) The contractor must have access to a database of soils properties for example, for sand and sandy-gravel soil, to be used in the FE model. The reference of where those properties will be taken must be specified by the contractor in the TA.
- (f) Since the structural analysis are mostly done with LS-DYNA in the WEP section, and because the current database (FE models, material properties, etc.) are available in LS-DYNA formats, the loadings must always be compatible with LS-DYNA input format. No substitution of the target FE code will be allowed unless specified in the TA for special cases (e.g. explore new solver). In the cases where a FE analysis has to be performed, the CFD-FE interface must also be compatible with LS-DYNA.
- (g) When finite element simulations are performed using LS-DYNA software, the bidder must have access to at least 4 LS-DYNA licenses.

3.3 Task 1 : Provide CFD loadings for structural dynamics simulations

3.3.1 General

This task consists of generating blast or landmine loadings using principally CFD codes. Since the structural analysis are mostly done with LS-DYNA, and because the current database (FE models, material properties, etc.) are available in LS-DYNA formats, the loadings must always be compatible with LS-DYNA input format. No substitution of the target FE code will be allowed unless specified in the TA in special cases (e.g. explore new solver).

3.3.2 Services to be provided

- (a) Subtask 1.1: The contractor must perform modifications to the CAD model of the targets (ex. simplify the geometry) or create the CAD model of the target(s) or platform(s). The military platforms may range from simple targets, such as metallic plates, to complete ones (ex. Vehicle sections, LAV, Frigate).
- (b) Subtask 1.2: The contractor must mesh the CAD model(s). The contractor may also be tasked to mesh partially or completely the targets, or may be tasked to modify or refine the mesh.
- (c) Subtask 1.3: The contractor must generate the loading (usually blast or landmine) by using usually a CFD code (3-D will be required for some applications), which can include (but not limited to) internal and external blast, mine blast and ejecta ingress. Since there are cases where a landmine is to be modeled, it is necessary that the blast and ejecta resulting from the landmine explosion be modeled by the CFD code. The simulated loadings must be directly used in LS-DYNA code.

(d) Subtask 1.4: The contractor must model multi-phase explosives (e.g. thermobaric explosive).

3.4 Task 2: Finite element simulations of platforms and personnel protection equipment

3.4.1 General

This task consists of modeling the loading and the structural effects of blast and/or projectile shock on different targets, ex. vehicles and ships, or on a simplified version of it, or on simple targets such as plates, as well as on personnel protection equipment (PPE) and possibly anthropomorphic models or parts of such models. The FE models may need to be generated by the contractor (see Task 1), or may need to be modified and/or re-meshed when provided by DRDC. Sometimes, quasi-static analysis could be required but most of the time dynamic structural analysis and simulations must be performed.

3.4.2 Services to be provided

(a) Subtask 2.1: The contractor must perform the finite element simulations. For example, it could be quasi-static or dynamic structural analysis involving many different scenarios such as landmine blast effects on structure, air blast effects on structure, weapons or even non lethal weapons effects modeling and simulation. All the details will be provided in the TA.

3.5 Task 3: Development of specialized algorithms and interfaces

3.5.1 General

The purpose of this task is to improve the capabilities of existing CFD and FE softwares.

3.5.2 Services to be provided

(a) Subtask 3.1: The contractor must model new threats and targets using CFD code.

(b) Subtask 3.2: The contractor must improve or modify the CFD code to improve accuracy of the simulation.

(c) Subtask 3.3: The contractor must improve or modify the interface between the CFD code and the LS-DYNA code to improve accuracy of the simulation.

(d) Subtask 3.4: The contractor must create an executable to convert the CFD output file readable by another code used by DRDC.

(e) Subtask 3.5: The contractor must modify the CFD code to improve the compatibility (ex. for parallel computation) between the CFD code and DRDC's computer systems.

(f) Subtask 3.6: The contractor must include the implementation of filters in software for modeling the effect of PPE, or must implement material models, or failure models, or loading routines, etc.

3.6 Task 4: Improvement of constitutive models for soil

3.6.1 General

This task consists of developing and improving methods to characterize the soil and to improve soil modeling in FE analysis.

3.6.2 Services to be provided

- (a) Subtask 4.1: The Contractor must develop a new soil constitutive model or must improve an existing soil model (in a CFD code for example) and must find the parameters for a given soil.
- (b) Subtask 4.2: The contractor must perform finite element simulations (including structural analysis of a structure, but not limited to) to model for example the mineblast/shock interaction with the structure, soil ejecta, etc. using LS-DYNA or using the CFD code and LS-DYNA.
- (c) Subtask 4.3: The contractor must perform parametric studies pertaining to variables such as soil density, soil moisture, soil type, depth of burial, mine location, mine weight, target geometry, etc.
- (d) Subtask 4.4: The contractor must compare the results obtained from existing constitutive models for soil with the results from the modified or from a new constitutive model for soil.

3.7 Task 5: Application and modifications of tools used to perform Vulnerability/Lethality study involving personnel, military platforms and weapons systems.

3.7.1 General

This task consists of using and/or modifying a software for predicting the vulnerability of components or military platforms, ranging from simple ones (plates, boxes, etc.) to complex ones (parts or full scale vehicles or ships, etc.) and of personnel to different threats and to assess the lethality of different weapon systems to different targets.

3.7.2 Services to be provided

- (a) Subtask 5.1: The contractor must model the effects of blast loads (internal and external blast and shock) on targets and/or on personnel.
- (b) Subtask 5.2: The contractor must perform parametric studies on one or several of the following elements: personnel position, armour type, target geometry, explosive location, explosive weight, etc., over a large set of parameters, in order to get a global portrait of the damage of the platform and/or the resulting incapacitation of the personnel.
- (c) Subtask 5.3: The contractor must improve or modify the vulnerability/lethality software (for commercial reasons, DRDC cannot guarantee access to the source code of the software currently used at Valcartier). It may be necessary to modify or add algorithms (on penetration, failure criteria, personnel injury criteria, damage criteria, 'kill' criteria, etc.), modify or add existing lethality criteria (such as skin burn, flash and possibly other ones) or even add new lethality mechanisms, and possibly mapped them to the WEP section vulnerability codes.
- (d) Subtask 5.4: The contractor must model and program new threats and/or targets. If it is specified in the TA, the contractor must also couple the vulnerability software, routines and results to the in-house codes used by the WEP section (e.g. GVAM, SLAMS).
- (e) Subtask 5.5: The contractor must add models of structural response and failure for different components (beams, plates, boxes, etc.) to specialised CFD or vulnerability codes independent of LS-DYNA if it is required to improve the actual simulation methods or to spare CPU time.

- (f) Subtask 5.6: The contractor must create and/or modify an interface that imports the finite element models in the vulnerability/lethality code.
- (g) Subtask 5.7: The contractor must create and/or modify an interface that exports the vulnerability/lethality code models and loading in a finite element model input file readable by the LS-DYNA code.

3.7.3 Mandatory tools required to perform task 5

- (a) The vulnerability code provided by the contractor must cover, as a minimum, injury mechanisms related to blast overpressure (ex. Bowen curves for lung or ear injuries, or Axelsson chest response model). (DRDC cannot guarantee access to the source code of the software currently used).

3.8 Task 6: General engineering services

3.8.1 General

Usually, the services will be conducted at the contractor's facilities. However when a continuous interaction is required between the technical authority and the contractor (or even possibly a sub-contractor), for example, if a very complex target needs to be meshed, for longer-duration services or when training is required, then it may be considered to base the contractor at DRDC facilities. General engineering services to be provided by the Contractor include:

3.8.2 Services to be provided

- (a) Subtask 6.1: The contractor must perform a literature review related to one of the tasks or subtasks of this contract.
- (b) Subtask 6.2: The contractor must perform simulation and analysis of internal and external flows using a CFD code.
- (c) Subtask 6.3: The contractor must provide advices and strategies on the physical modeling of the problem (fluid dynamic problems, interaction, etc.), on troubleshooting, on the development or modification of numerical and analytical methods.
- (d) Subtask 6.4: The contractor must provide technical advices and/or provide training related to the use of specialised CFD code (blast/shock) and/or FE code (e.g. LS-DYNA) and/or related softwares.

4. REPORTS AND OTHER DELIVERABLES

4.1 General

Generally, the deliverables will consist of CAD and finite element meshes, input files of the simulation, new routines or algorithms modified or developed, data generated by the simulations and technical reports. The specific deliverables will depend on the nature of the task described in the Task authorization. The number of copies to provide will be specified in the TA.

4.2 CAD, finite element meshes and input files

In cases where a CAD file and/or a finite element meshes are generated by the contractor, an electronic copy (CD, DVD, USB or a portable disc) of the CAD and meshes must be provided to the technical authority.

Unless specified otherwise in the TA, the mesh must be easily imported in FEMAP software (for further work) or any other specified software. LS-DYNA input file generated (including mesh and loadings) must generally be useable directly by the LS-DYNA code. In special cases output may need to be delivered to other specialised software as determined in the TA. When a CFD code generates the loading to be used in the LS-DYNA code, the contractor must provide an electronic format compatible with the LS-DYNA input format unless specified otherwise in the TA.

4.3 Routines and/or algorithms

When a new routines and/or algorithms are implemented to a CFD code, the contractor must provide an executable version of the modified software and documentation explaining how to access and use the new/modified features. If specified in the TA, the source code of the new routine or algorithms must be provided. The contractor must also provide documentation describing the changes. In the case when new routines and/or algorithms are implemented in a vulnerability/lethality software or in a FE code (ex. LS-DYNA), the contractor must provide the same package as well as an access to the source code such that DRDC can do further modifications to the routines and/or algorithms. Mathematical formulations and data on the validation of the model must also be well explained. In either case, the executable code must run on a PC with MS Windows 2003 or later operating system. In the case when new or modified constitutive models for soil must be developed, the source code must be provided to DRDC so that further improvement of the code could be performed by DRDC.

4.4 Simulations

The version of the simulation software used must always be reported as well as the number of PC's used to run the problem (on a cluster).

Output data generated along the TA could be exchanged, for example when data are unclassified, via email or sharepoint to allow quick interaction between the contractor and DRDC. Final results must be provided on an electronic medium such as CD, DVD, USB or on a portable disc.

4.5 Technical reports

For simple task such as meshing a CAD model or when specified in the TA, the work performed will be written in an informal document (in electronic format). This document will contain, at least, a written abstract and summary, the work performed, explanations on how to interpret the data and the results obtained (including also the meshed models when applicable). Also, references to previous work, to explosives properties and to materials and soils properties must be provided in the document.

For task concerning advices and strategies to be given by the contractor, the TA will specify if there are technical reports to provide.

In most of the cases, the work performed under the task authorization will be written in a technical report. This report will contain, a written abstract and summary: the length and depth of the summary will depend upon the extent of the work and the pertinence of the results. It should also include the objectives, a description of the work (the methodology followed, difficulties, solutions to overcome the problems), results, conclusions and recommendations. Also, all the references to previous work, to explosive properties, to material properties and to soils properties, that were used to performed the work, must be provided in the report. The length of the document will depend on the extent of the work performed and on the results obtained. Usually, (it will be specified in the TA), the presentation format of the report will have to comply with DRDC standards. Therefore, at least the title page, signature page, abstract and executive summary will have to comply with the DRDC template. This template will be available through the technical authority after the contract award. The abstract and executive summary will be provided in English and French. However, the main body of the report must be written in French or English as suits the technical authority. The contractor may be asked to deliver 12 printed and bound copies of the report (8.5"x11") on paper and also 2 electronic copies (on CD or DVD or USB key or on a portable disc, depending on the size of the report) in MS WORD and Adobe PDF formats. The electronic copy must include more technical details such as movies of the simulation, excel spread sheets, graphs, etc. In most of the cases, the nature and structure of all output data, including technical details and caveats, must be well explained.

4.6 User's manuals

When training on CFD or FE codes is required, user's manual explaining how the code works and examples on how to use the code (paper and electronic copies, in English or French) must be provided as well as any pertinent information. The TA will specify what has to be provided.

4.7 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 Canada 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 Canada'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).

4.8 Foreground Information

In addition to the disclosure obligation under Section 28 of the general conditions 2040, 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.

5. MEETINGS

5.1 Kick-off meeting

Once a task authorization (TA) is activated, the Contractor must prepare for and attend a kick-off meeting with the technical authority and DRDC representatives, preferably in person at DRDC Valcartier's facilities, but as an alternative means of communication, phone or videoconference could be possible. This will be specified in the TA. The contractor must prepare the agenda (to be distributed at least 24 hours before the meeting), minutes and follow-up of the meeting (to be distributed no later than 5 working days after the meeting). The meeting could be held in French or English as suits the technical authority. During this meeting, several topics must be covered (others could be added) such as:

- Review of the contract objectives

- Presentation of the project plan according to the requirements
- Methodology to be followed to realise the work and to assess the project plan
- Review the documentation production (formats, standards, etc.)
- Financial management

5.2 Progress review meetings

The technical authority could ask to hold a progress review meeting, based on the duration and complexity of the TA. The contractor will be responsible for leading these meetings, including preparing the agenda (to be distributed at least 24 hours before the meeting), minutes and follow-up (to be distributed no later than 5 working days after the meeting). It must include objectives followed, a description of the work, methodology, documentation, results and conclusion/ recommendations of the work to be done during the next period of work. If problems were encountered during that period of time, explanations and proposed solution must be given. Also a management (financial and manpower) report must be given by the contractor.

The progress review meetings must be held on-site at DRDC Valcartier's facilities but depending on time constraint, it could be possible to hold the meeting by telephone or by videoconference. This will be specified in the TA.

5.3 Other meetings

Other meetings may be held at the convenience and discretion of the Technical Authority. The location of the meeting, or phone conference or videoconference, and the roles and responsibilities of the parties to those other meetings will be set out in the TA.

5.4 Meetings location

When meetings will be held at DRDC Valcartier, all personnel without security clearance will always be escorted at all times. Usually, meetings must be held at DRDC Valcartier facilities; however, when authorized by the Technical Authority, occasionally, meetings could be held at the contractor's facilities or held by phone conference or videoconference.

6. GOVERNMENT FURNISHED EQUIPMENT (GFE)

When furnished equipment is required, the task authorization will specify what material will be provided. Generally, it will be CAD drawings of platforms and/or targets to be meshed, compatible with SOLIDEDGE or FEMAP format, or in the case when platforms and/or targets are already partially or fully meshed, FEMAP or LS-DYNA input files could be provided. For special and occasional cases, algorithms, trial data or even codes may be provided.

7. WORK LOCATION

Most of the time, these services will need to be conducted at the contractor's facilities. However when a very complex target needs to be meshed, or for a complex task, or for longer-duration services or when training is required, then it may be considered to base the contractor at DRDC Valcartier's facilities.

Each TA will specify the work location of the task to be performed.

8. LABOUR CATEGORIES REQUIRED TO PERFORM THE WORK

General requirements regarding the experience and the education of the resources are explained below:

- (a) To be considered acceptable by Canada, each diploma must be from a recognized Canadian university or college, or an equivalent established by a recognized Canadian credential-assessment service if the diploma or certificate was obtained abroad. The list of recognized organizations is posted on the Web site of the Canadian Information Centre for International Credentials at the following address: <http://cicic.ca>.

- (b) Experience acquired during graduate studies above the minimum level required for each Labour category may be recognized if the relevance to the field of expertise is demonstrated.
- (c) The months of experience identified at section 8.1 to 8.4 must be in terms of months of full-time employment (1 month of experience = 150 hours of work).

The following labour categories must be made available by the contractor to perform the work. Some TA will identify the required labour category some other will not.

8.1 Senior engineer

Each resource must have a minimum of a bachelor's degree in (i) mechanical engineering or (ii) physical engineer or (iii) graduated studies related to finite element analysis or (iv) analytical simulation or (v) computational fluid dynamic.

The senior engineer must also have a minimum of **24 months of experience in managing R&D projects**.

He must also have a minimum of **120 months of experience, in several of the following fields** (for example, the months of experience can be calculated as follows: 40 months of experience in (a) and 8 months of experience in (b) and 72 months of experience in (d)).

At least 24 months of experience must have been acquired in field (b), (c) and/or (d):

- (a) Experience in the development and use of numerical and analytical tools used to perform vulnerability/lethality study involving personnel or military platforms, and weapons systems.
- (b) Experience in generating blast or landmine loadings using CFD code
- (c) Experience to perform simulations and analysis of internal and external flows using a CFD code
- (d) Experience using LS-DYNA code to perform finite element simulations.
- (e) Experience in the development, characterisation and use of constitutive material models (ex. steel, aluminum, ceramics, foam, etc).
- (f) Experience in the development, characterisation and use of constitutive models for soils.
- (g) Resources experience in the development and implementation of one of the following: material models, algorithms, failure criteria, injury criteria, damage models.

8.2 Engineer

Each resource must have a minimum of a mechanical engineer diploma or a bachelor degree in a field related to the task described in the statement of work.

The engineer must also have a minimum of **42 months of experience in several of the following fields** (for example, the months of experience can be calculated as follows: 12 month of experience in the field (a) + 12 months of experience in the field (c) + 18 months of experience in the field (g)).

At least 12 months of experience must have been acquired in field (b), (c) and/or (d):

- (a) Experience in the development and use of numerical and analytical tools used to perform vulnerability/lethality study involving personnel or military platforms, and weapons systems.
- (b) Experience in the generating blast or landmine loadings using CFD code
- (c) Experience to perform simulations and analysis of internal and external flows using a CFD code
- (d) Experience using LS-DYNA code to perform finite element simulations.
- (e) Experience in the development, characterisation and use of constitutive material models (ex. steel, aluminum, ceramics, foam, etc).
- (f) Experience in the development, characterisation and use of constitutive models for soil.

(g)Resources experience in the development and implementation of one of the following: material models, algorithms, failure criteria, injury criteria, damage models.

8.3 Junior engineer

Each resource must have a minimum of a bachelor degree in mechanical engineer or a field related to the task described in the statement of work.

8.4 Technician

Each resource must have a minimum of a technical mechanical engineering diploma and must have 12 months of experience in CAD and mesh generation of simple (ex. plates) and complex structures (ex. vehicles, ships, etc.) using FEMAP or an equivalent mechanical design software (ex.: solidedge, solidwork, etc).

OR

The resource must have at least 36 months of experience in CAD and mesh generation of simple (ex. plates) and complex structures (ex. vehicles, ships, etc.) using FEMAP or an equivalent mechanical design software (ex.: solidedge, solidwork, etc)



Contract Number / Numéro du contrat W7701-135616
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 The general objective is to provide technical services in numerical modeling and simulation. The numerical simulation includes engineering design analysis, structural finite element analysis and vulnerability analysis. Support and training on numerical modeling and simulations may also be provided.		
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 type="checkbox"/> No / Non <input checked="" type="checkbox"/> Yes / Oui
6. Indicate the type of access required / Indiquer le type d'accès requis		
6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)		<input type="checkbox"/> No / Non <input checked="" type="checkbox"/> Yes / Oui
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.		<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui
6. c) Is this a commercial courier or delivery requirement with no overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit?		<input checked="" type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui
7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès		
Canada <input checked="" type="checkbox"/>	NATO / OTAN <input checked="" 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 checked="" type="checkbox"/>	No release restrictions / Aucune restriction relative à la diffusion <input type="checkbox"/>
Not releasable / À ne pas diffuser <input type="checkbox"/>		
Restricted to: / Limité à: Specify country(ies): / Préciser le(s) pays: <input type="checkbox"/>	Restricted to: / Limité à: Specify country(ies): / Préciser le(s) pays: <input type="checkbox"/>	Restricted to: / Limité à: Specify country(ies): / Préciser le(s) pays: <input type="checkbox"/>
7. c) Level of information / Niveau d'information		
PROTECTED A / PROTÉGÉ A <input type="checkbox"/>	NATO UNCLASSIFIED / NATO NON CLASSIFIÉ <input checked="" type="checkbox"/>	PROTECTED A / PROTÉGÉ A <input type="checkbox"/>
PROTECTED B / PROTÉGÉ B <input checked="" type="checkbox"/>	NATO RESTRICTED / NATO DIFFUSION RESTREINTE <input checked="" type="checkbox"/>	PROTECTED B / PROTÉGÉ B <input type="checkbox"/>
PROTECTED C / PROTÉGÉ C <input type="checkbox"/>	NATO CONFIDENTIAL / NATO CONFIDENTIEL <input type="checkbox"/>	PROTECTED C / PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL / CONFIDENTIEL <input checked="" type="checkbox"/>	NATO SECRET / NATO SECRET <input type="checkbox"/>	CONFIDENTIAL / CONFIDENTIEL <input type="checkbox"/>
SECRET / SECRET <input checked="" type="checkbox"/>	COSMIC TOP SECRET / COSMIC TRÈS SECRET <input type="checkbox"/>	SECRET / SECRET <input type="checkbox"/>
TOP SECRET / TRÈS SECRET <input type="checkbox"/>		TOP SECRET / TRÈS SECRET <input type="checkbox"/>
TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>		TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) <input type="checkbox"/>



PART A (continued) / PARTIE A (suite)

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

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

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

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

Document Number / Numéro du document :

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

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

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

Special comments:

Commentaires spéciaux :

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.

REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work?
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail? No / Non Yes / Oui

If Yes, will unscreened personnel be escorted?

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

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

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

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

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

PRODUCTION

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

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

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

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



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 CONFIDENTIEL	NATO SECRET	COSMIC TOP SECRET / COSMIC TRÈS SECRET	PROTECTED / PROTÉGÉ			CONFIDENTIAL	SECRET	TOP SECRET / TRÈS SECRET
											A	B	C			
Information / Assets / Renseignements / Biens	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IT Media / Support TI	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IT Link / Lien électronique	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

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

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

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

Annex D

Form DND 626, Task Authorization



**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 – À	<p>TO THE CONTRACTOR</p> <p>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.</p> <p>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.</p> <p>À L'ENTREPRENEUR</p> <p>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.</p> <p>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.</p>	
Delivery location – Expédié à	<p>_____</p> <p style="text-align: center;">Date</p> <p style="text-align: right;">_____</p> <p style="text-align: right; font-size: small;">for the Department of National Defence pour le ministère de la Défense nationale</p>	
Delivery/Completion date – Date de livraison/d'achèvement		
Contract item no. N° d'article du contrat	Services	Cost Prix
	GST/HST TPS/TVH	
	Total	
<p>APPLICABLE ONLY TO PWGSC CONTRACTS: The Contract Authority signature is required when the total value of the DND 626 exceeds the threshold specified in the contract.</p> <p>NE S'APPLIQUE QU'AUX CONTRATS DE TPSGC : La signature de l'autorité contractante est requise lorsque la valeur totale du formulaire DND 626 est supérieure au seuil précisé dans le contrat.</p>		
<p>_____</p> <p style="text-align: center; font-size: small;">for the Department of Public Works and Government Services pour le ministère des Travaux publics et services gouvernementaux</p>		

Instructions for completing DND 626 - Task Authorization

Contract no.

Enter the PWGSC contract number in full.

Task no.

Enter the sequential Task number.

Amendment no.

Enter the amendment number when the original Task is amended to change the scope or the value.

Increase/Decrease

Enter the increase or decrease total dollar amount including taxes.

Previous value

Enter the previous total dollar amount including taxes.

To

Name of the contractor.

Delivery location

Location where the work will be completed, if other than the contractor's location.

Delivery/Completion date

Completion date for the task.

for the Department of National Defence

Signature of the DND person who has delegated **Authority** for signing DND 626 (level of authority based on the dollar value of the task and the equivalent signing authority in the PAM 1.4). **Note:** the person signing in this block ensures that the work is within the scope of the contract, that sufficient funds remain in the contract to cover this task and that the task is affordable within the Project/Unit budget.

Services

Define the requirement briefly (attach the SOW) and identify the cost of the task using the contractor's quote on the level of effort. The Task must use the basis of payment stipulated in the contract. If there are several basis of payment then list here the one(s) that will apply to the task quote (e.g. milestone payments; per diem rates/labour category hourly rates; travel and living rates; firm price/ceiling price, etc.). All the terms and conditions of the contract apply to this Task Authorization and cannot be ignored or amended for this task. Therefore it is not necessary to restate these general contract terms and conditions on the DND 626 Task form.

Cost

The cost of the Task broken out into the individual costed items in **Services**.

GST/HST

The GST/HST cost as appropriate.

Total

The total cost of the task. The contractor may not exceed this amount without the approval of DND indicated on an amended DND 626. The amendment value may not exceed 50% (or the percentage for amendments established in the contract) of the original value of the task authorization. The total cost of a DND 626, including all amendments, may not exceed the funding limit identified in the contract.

Applicable only to PWGSC contracts

This block only applies to those Task Authorization contracts awarded by PWGSC. The contract will include a specified threshold for DND sole approval of the DND 626 and a percentage for DND to approve amendments to the original DND 626. Tasks that will exceed these thresholds must be passed to the PWGSC Contracting Authority for review and signature prior to authorizing the contractor to begin work.

Note:

Work on the task may not commence prior to the date this form is signed by the DA Authority - for tasks within the DND threshold; and by both DND and PWGSC for those tasks over the DND threshold.

Instructions pour compléter le formulaire DND 626 - Autorisation des tâches

N° du contrat

Inscrivez le numéro du contrat de TPSGC en entier.

N° de la tâche

Inscrivez le numéro de tâche séquentiel.

N° de la modification

Inscrivez le numéro de modification lorsque la tâche originale est modifiée pour en changer la portée.

Augmentation/Réduction

Inscrivez le montant total de l'augmentation ou de la diminution, y compris les taxes.

Valeur précédente

Inscrivez le montant total précédent, y compris les taxes.

À

Nom de l'entrepreneur.

Expédié à

Endroit où le travail sera effectué, si celui-ci diffère du lieu d'affaires de l'entrepreneur.

Date de livraison/d'achèvement

Date d'achèvement de la tâche.

pour le ministère de la Défense nationale

Signature du représentant du MDN auquel on a délégué le **pouvoir d'approbation** en ce qui a trait à la signature du formulaire DND 626 (niveau d'autorité basé sur la valeur de la tâche et le signataire autorisé équivalent mentionné dans le MAA 1.4). **Nota :** la personne qui signe cette attache de signature confirme que les travaux respectent la portée du contrat, que suffisamment de fonds sont prévus au contrat pour couvrir cette tâche et que le budget alloué à l'unité ou pour le projet le permet.

Services

Définissez brièvement le besoin (joignez l'ET) et établissez le coût de la tâche à l'aide de la soumission de l'entrepreneur selon le niveau de difficulté de celle-ci. Les modalités de paiement stipulées dans le contrat s'appliquent à la tâche. Si plusieurs d'entre elles sont prévues, énumérez ici celle/celles qui s'appliquera/ront à la soumission pour la tâche à accomplir (p.ex. acompte fondé sur les étapes franchies; taux quotidien ou taux horaire établi selon la catégorie de main-d'œuvre; frais de déplacement et de séjour; prix fixe ou prix plafond; etc.). Toutes les modalités du contrat s'appliquent à cette autorisation de tâche et ne peuvent être négligées ou modifiées quant à la tâche en question. Il n'est donc pas nécessaire de répéter ces modalités générales afférentes au contrat sur le formulaire DND 626.

Prix

Mentionnez le coût de la tâche en le répartissant selon les frais afférents à chaque item mentionné dans la rubrique **Services**.

TPS/TVH

Mentionnez le montant de la TPS/TVH, s'il y a lieu.

Total

Mentionnez le coût total de la tâche. L'entrepreneur ne peut dépasser ce montant sans l'approbation du MDN, formulaire DND 626 modifié à l'appui. Le coût de la modification ne peut pas être supérieur à 50 p. 100 du montant initial prévu dans l'autorisation de tâche (ou au pourcentage prévu dans le contrat pour les modifications). Le coût total spécifié dans le formulaire DND 626, y compris toutes les modifications, ne peut dépasser le plafond de financement mentionné dans le contrat.

Ne s'applique qu'aux contrats de TPSGC

Le présent paragraphe s'applique uniquement aux autorisations de tâche accordées par TPSGC. On inscrira dans le formulaire DND 626 un plafond précis qui ne pourra être approuvé que par le MDN et un pourcentage selon lequel le MDN pourra approuver des modifications au formulaire DND 626 original. Les tâches dont le coût dépasse ces plafonds doivent être soumises à l'autorité contractante de TPSGC pour examen et signature avant qu'on autorise l'entrepreneur à débiter les travaux.

Nota :

Les travaux ne peuvent commencer avant la date de signature de ce formulaire par le responsable du MDN, pour les tâches dont le coût est inférieur au plafond établi par le MDN, et par le MDN et TPSGC pour les tâches dont le coût dépasse le plafond établi par le MDN.

CONTRACT

Processing of Sensitive Information



IT Security

Department of National Defence (DND) and (*company name*)

General information on how to complete the form:

1. Ensure to state the contract # and where required the contractor's name
2. Ensure to add security requirements unique to the contract. This information excludes security requirements of the product(s) being purchased, which should be documented within the contract clauses.
3. Ensure you identify security requirement(s) that may not apply and why, e.g. Article 3.2.1.6 "This contract addresses up to PROTECTED B. And this article does not apply to systems operating at the PROTECTED level."
4. Note: PWGSC uses the abbreviation ITSC and DND uses ITS Coord.
5. The selection or options are in (*italics*)

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1. INTRODUCTION

This document outlines the IT Security requirements for the Department's current contract # (*enter number*) with (*company name*) for the processing of sensitive data up to and including the level of (*enter level*). In absence of a formal Threat-Risk Assessment (TRA) and due to the IT portion of the Security clearance being contract specific, the intent of this document is to state the minimum safeguards required in order that the processing of sensitive information be approved by the Department's IT Security Coordinator (ITSC), i.e. this document shall be validated by ++DWAN National ISSO-OSSI National du RED@ADM(IM) DGIMT@Ottawa-Hull.

Security is based upon layers of protection; that is, in order for the requirements of the IT Security (ITS) to effectively safeguard the information, they must be preceded and supported by other aspects of security and the associated policies. The physical, personnel and information security safeguards in accordance with the Policy on Government Security and ITS related Standards must exist *prior* to the implementation of ITS safeguards.

2. MANDATORY PREREQUISITES

2.1. PWGSC Validation for Physical Security

The application of the security safeguards listed in this document are based on the *mandatory requirement* that the physical premises have been inspected, certified and accredited to process and store sensitive information by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services (PWGSC). The Departmental Security Officer's (DSO) office will validate the certification from the CISD physical security report and notify the ITSC representative, i.e. the applicable local Information System Security Officer (ISSO).

A CISD Field Industrial Security Officer (FISO) will perform a bi-annual inspection to ensure that premises PWGSC certification is maintained. DND additional specific security requirements shall be identified and the pertinent policies/standards stated whenever applicable.

2.2. Personnel Security

All personnel who have access to the material being processed must hold a valid Government of Canada security clearance at the appropriate level (dictated by the sensitivity of the material) and have the "*need to know*".

All (*company name*) personnel handling DND sensitive information must attend a training/briefing session coordinated and delivered by the DND DSO or by the DND ITSC.

Confirmation of all of the above shall be provided to CISD and to the DND DSO/ITSC (via CISD, the GC OPI).

2.3. Information Security

All hard copy documents and other media formats must be handled and transported in accordance with Government of Canada guidelines. All hard copy documents and other media will be marked with the appropriate security classification as provided by DND. Any covering letter, transmittal form or circulation slip will be marked to indicate the highest level of classification of the attachments.

Transportation of information associated with this contract into or out of the physical premises must adhere to RCMP G1-009 “*Transport and Transmittal of Protected and Classified Information*”. (company name) personnel may only transport documents associated with a DND contract into or out of the *security zone* with the approval of the DND DSO or the (Contractor name) Chief Security Officer (CSO)/Alternate CSO (ACSO) when it is within the contractor’s premises.

2.4. Security Policy Compliance Monitoring

On a frequency to be determined by the Safety, Security and Emergency Management Division (SSEMD), DND retains the right to conduct inspections of the (company name) facility to ensure compliance with Government of Canada and DND standards and policies with respect to the handling, storage and processing of sensitive information.

3. MINIMUM IT SECURITY REQUIREMENTS

3.1. IT Security Policy Compliance and Monitoring

On a frequency to be determined by Technology Services Division/Information Technology Security, DND retains the right to conduct inspections of the (company name) facility to ensure compliance with Government of Canada standards and policies with respect to prevention, detection, response and recovery requirements in the *Operational Security Standard: Management of Information Technology Security*. Access to industry must be coordinated through PWGSC, notwithstanding if the PWGSC is the GC contracting authority or not. The (company name) shall forward the result of the PWGSC inspection to the affected DND project office who shall provide the document to the ITSC representative upon request..

3.2. Adherence to Government of Canada Policies

All information technology related operations must adhere to the overall requirements outlined in the *Operational Security Standard: Management of Information Technology Security*. Specifically, sections 16-18 referring to prevention, detection, response and recovery.

3.2.1 Prevention

Prevention safeguards protect the confidentiality, integrity, and availability of information and IT assets.

3.2.1.1 Physical Security within the IT Security Environment

(*Company name*) will provide the DND ITSC representative (the applicable local ISSO) with the list of physical safeguards which are implemented in the facility used to process and store sensitive information. All equipment processing classified information is to reside in a **security zone** and all equipment processing protected information is to reside in a **operational zone** as (Guide number) *Guide to the Application of Physical Security Zones*".

The equipment within the security zone, which is used to process the sensitive information, must be either standalone or on an 'island' network (self-contained, used for the purposes of processing the information related to the contract, i.e. shall have no external connection to the internet or other network, internal or otherwise).

The *island* network must only be used for the processing and storage of information related to contracts with DND and no other party.

The use of wireless technology for the processing of sensitive information is prohibited.

3.2.1.2 Cryptography, Network Security and Perimeter Defence

The electronic storage of (*security classification or designation*) information associated with this contract must be within a CISD approved IT environment.

Electronic transmission of Protected A information should be encrypted when supported by a Threat and Risk Assessment. However, Protected B and higher information must be encrypted.

For Protected B information and higher, the (*company name*) must segregate its networks into IT security zones and implement perimeter defence and network security safeguards. CSEC provides the ITSG-38 and ITSG-22 guidelines on this specific subject. As well, the Contractor/Supplier must apply strict control of all access to the protected zone where the information associated with this contract resides. Network perimeter defence safeguards (e.g. firewalls, routers) must be used to mediate all traffic and to protect servers that are accessible from the internet. The (*company name*) must use CSEC approved encryption technology to ensure confidentiality, integrity, authentication and non-repudiation.

The Need-to-Know principle must always be applied for sensitive information and transmission must be restricted only to CISD approved recipients.

3.2.1.3 Storage, Disposal and Destruction of IT Media

All material such as CD/DVDs, flash/thumb drives, workstation hard disks, server hard disks, backup tapes and any other devices used to process or store sensitive information must be identified and itemized by model and serial number for hard disks, and by label for any other media which cannot be identified by model or serial number. During the contract these devices or material must be retained and properly stored or disposed of by (*company name*) Security personnel. In the event of failure and replacement of the equipment or termination of the final contract these devices or material must be retained and properly stored or disposed of by DND IT security personnel or, if authorized by the DND ITSC, the (*Company name*) IT Security personnel.

The DND ITSC must be provided with the list of equipment and media being used. In addition, only equipment and media that has been identified, itemized and documented may be used to process sensitive information associated with DND contracts.

In the event that equipment requires maintenance, support or replacement, no hardware associated with the processing or storage of sensitive information may be given to an outside vendor.

All media, when not in use, must be stored in a storage container which is RCMP-approved for the storage of sensitive information to the level of *(insert level)* (G1-001 “*Security Equipment Guide*”). The storage container must be verified by CISD and validated as appropriate by the DND DSO’s representative.

3.2.1.4 Authorization and Access Control

(Company name) must provide the DND ITSC representative with a list of all individuals who have access to the sensitive information being processed for the Department, along with *(company name)* current policies and procedures for adding individuals to the environment and the process followed when an individual is removed from the environment.

In following the ‘principle of least-privilege’, *(company name)* must provide only the minimum access required for individuals to perform their duties.

3.2.1.5 Mobile Computing and Teleworking

It is important to state that the processing of sensitive information associated with DND-related contracts *may only* be performed in the facility which has been validated by the *(DND DSO / CISD)*.

3.2.1.6 Emanations Security

The *Operational Security Standard: Management of Information Technology Security* states that organizations *should* use TEMPEST protection for Top Secret and Protected C information, when justified by a Threat and Risk Assessment. A TRA *should* be performed in order to ascertain whether or not TEMPEST protect is appropriate.

3.2.1.7 Telecommunications Cabling

In the event an island network is used (rather than standalone equipment), it is important to control and monitor access to telecommunications wiring, spaces and pathways to avoid inadvertent or deliberate connection to any other network. Should there be a requirement to invoke specific DND standards these shall be identified *(identify them)*.

3.2.1.8 Software Integrity and Security Configuration

(*company name*) should configure the security of their operating systems and application software being used to process sensitive information in accordance with security best practices (such as the Microsoft Security Compliance Toolkits for servers and clients, (*client name*) documentation. (*client name*) must implement safeguards to "harden" servers and workstations processing sensitive information, and detail that information in a document to be delivered to the DND_ITSC. Whenever DND has specific configurations requirements and if DND data is processed, DND standards must be applied and provided to the company.

3.2.1.9 Malicious Code

(*company name*) must install, use and regularly update antivirus software and conduct scans on all electronic files from external systems. The use of removable storage devices must be controlled, e.g. must used authorized USB.

3.2.2 Detection

It is important to have the ability to detect security related issues within the operating environment which processes sensitive information. Even though the systems are isolated, it is still useful to use sources such as system logs (event viewer), virus protection software and other system tools to monitor systems. In order to adequately protect information there must exist the ability to detect activity such as unauthorized access, unplanned disruption of systems or services or unauthorized changes to system hardware, firmware, or software. Detection mechanisms which are used by (*company name*) must be documented and provided to the DND ITSC or on behalf of the DND ITSC, identify the DND incident handler to be contacted in accordance with the GC Incident Management Plan (*specify the DND organization or OPI*).

3.2.3 Response and Recovery

3.2.3.1 Incident Response

The Policy on Government Security requires departments to 'establish mechanisms to respond effectively to IT incidents and exchange incident-related information with designated lead departments in a timely fashion'. Similarly, DND requires (*company name*) to have a documented incident response process. The (*company name*) CSO/ACSO shall provide all documentation pertaining to incident response to the DND ITSC.

3.2.3.2 Incident Reporting

It is paramount that the DND DSO and ITSC are made aware of any security-related incidents with respect to the facilities and equipment used to process and store sensitive information associated with DND contracts.

(*company name*) must report any security-related incidents to the DND DSO, the DND ITSC representative and CISD within *two hours* of a security incident being detected or reported.

3.2.3.3 Recovery

The ability to recover systems and information is extremely important in any IT environment. DND requires *(company name)* demonstrate the ability to address systems recovery by providing documentation relating to systems and server backup policies (e.g. processes used, tests restores, retention periods and storage of backup media). This documentation shall be forwarded to the DND ITSC.

TEMPLATE ONLY