Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

Bid Receiving - PWGSC / Réception des soumissions - TPSGC
Gare Maritime Champlain
Champlain Maritime Harbour
901, Cap Diamant
901, Cap Diamant
Québec
Québec
G1K 4K1

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
VRAPP TDP

Solicitation No. - N° de l'invitation	**Date**
W7701-073307/A	2010-04-01

Client Reference No. - N° de référence du client
W7701-7-3307

GETS Reference No. - N° de référence de SEAG
PW-$QCL-017-12662

File No. - N° de dossier	**CCC No./N° CCC - FMS No./N° VME**
QCL-8-25865 (017)	

Solicitation Closes - L'invitation prend fin
at - à 02:00 PM
on - le 2010-05-06

Time Zone
Fuseau horaire
Heure Normale du l'Est
HNE

F.O.B. - F.A.B.
Plant-Usine: ☐ **Destination:** ☑ **Other-Autre:** ☐

Address Enquiries to: - Adresser toutes questions à:	**Buyer Id - Id de l'acheteur**
Mombleau, Martine	qcl017

Telephone No. - N° de téléphone	**FAX No. - N° de FAX**
(418) 649-2764 ( )	(418) 648-2209

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:
R & D POUR LA DÉFENSE CANADA - VALCARTIER
BATIMENT 53
2459 BLVD PIE XI NORD
QUÉBEC
Québec
G3J1X5
Canada

Instructions: See Herein

Instructions: Voir aux présentes

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

Delivery Required - Livraison exigée	**Delivery Offered - Livraison proposée**
Voir doc.	

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

Telephone No. - N° de téléphone
Facsimile No. - N° de télécopieur

Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)
Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)

Signature **Date**

Issuing Office - Bureau de distribution
TPSGC/PWGSC
Gare Maritime Champlain
Champlain Maritime Harbour
901, Cap Diamant
901, Cap Diamant
Québec
Québec
G1K 4K1

Canada

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PART 1 - GENERAL INFORMATION

1. Introduction

The bid solicitation and resulting contract document is divided into seven (7) parts plus 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 and states that the Bidder agrees to be bound by the clauses and conditions contained in all parts of the bid solicitation;

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

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

Part 5 Certifications: includes the certifications to be provided;

Part 6 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, the Basis of Payment and any other annexes.

2. Summary

Background:

Electro-optic (EO) based weapons systems represent dangerous and rapidly proliferating threats that land, air and sea platforms are facing. These threats will undoubtedly continue to be of primary concern for years to come since an increasing number of these systems, of both known and new generation designs, are being deployed. The increasing complexity, variability and diversity of EO threats are prominent challenges currently facing countermeasure designers.

Equipping a platform with a self-protection system does not systematically ensure that it is adequately protected against emerging, and even conventional, threats. Indeed, to be effective, a self-protection system must be triggered by a warning system and activate an appropriate countermeasure sequence. Moreover, the adequate employment of a self-protection system is dependent on the platform to be protected, the conditions of the engagement and the threat.

Therefore, the development of countermeasure techniques and their employment against EO threats requires a robust capability that must include: experimental tools for conducting efficient analysis; engineering processes to ensure consistency in the results; and a Verification and Validation (V&V) process to provide the required level of detail.

As an answer to this requirement, DRDC Valcartier initiated the VRAPP Technology Demonstration Project (TDP) that aims, in particular, at providing a virtual demonstration capacity for the analysis and development of self-protection means against known and foreseen EO threat systems. Practically, the VRAPP TDP will demonstrate a comprehensive and thorough approach for addressing EO warfare engineering and training issues including the integration of existing virtual, live and hybrid simulation systems involving a synthetic environment. Work will also be carried out to define integrated engineering processes driving the development of EO countermeasure techniques, as well as a rigorous V&V methodology.

Additional information:

The organization for which the services are to be rendered is Defence Research and Development Canada - Valcartier (DRDC - Valcartier).

The period of the Contract is from date of Contract to March 31, 2014 inclusive.

The work is to be carried out on site at Defence Research and Development Canada - Valcartier, located at 2459 Pie-XI Blvd North, Quebec City, Quebec.

Defence Research and Development Canada - Valcartier has determined that any intellectual property rights arising from the performance of the Work under the resulting contract will belong to Canada.

The contract issued will be a task authorization contract. The maximum contract value is $3,545,000.00 and the minimum contract value is 10 percent of the maximum contract value.

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" document on the Departmental Standard Procurement Documents Web site.

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

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

This procurement is subject to the Controlled Goods Program.

3. Communications Notification

As a courtesy, the Government of Canada requests that successful bidders notify the Contracting Authority in advance of their intention to make public an announcement related to the award of a contract.

4. Debriefings

After contract award, bidders may request a debriefing on the results of the bid solicitation. Bidders should make the request to the Contracting Authority within 15 working days of receipt of notification that their bid was unsuccessful. The debriefing may be provided 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 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 (2010-01-11) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 4.4 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 Bid (PWGSC) 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 electronic 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. Basis for Canada's Ownership of Intellectual Property

Defence Research and Development Canada - Valcartier has determined that any intellectual property rights arising from the performance of the Work under the resulting contract will belong to Canada.

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 and Management Bid (4 hard copies)
Section II: Financial Bid (4 hard copies)
Section III: Certifications (1 hard copy)

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

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

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

Section I: Technical and Management Bid

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

Bidders must also describe their capability and experience as well as the project management team in compliance with the criteria set out in the *Detailed table of point-rated technical criteria* in Annex E.

Section II: Financial Bid

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

A firm all-inclusive hourly rate (inclusive of overhead and profit) for each resource category listed in Annex B, Basis of Payment, for each year of the contract period.

Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

(a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.

(b) An evaluation team composed of representatives of Canada will evaluate the bids.

1.1 Technical Evaluation

Mandatory and point rated technical evaluation criteria are included in Annex E.

1.2 Financial Evaluation

1.2.1 Evaluation of Price

SACC Manual Clause A0220T (2007-05-25), Evaluation of Price

For evaluation purposes only, the price of the bid will be determined as detailed in Annex F.

2. Basis of Selection

2.1 Basis of Selection - Lowest Price Per Point

1. To be declared responsive, a bid must:

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

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

PART 5 - CERTIFICATIONS

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

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

1. Certifications Precedent to Contract Award

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

1.1 Federal Contractors Program - $200,000 or more

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

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

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

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

   The Bidder or the member of the joint venture

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

(b) ( ) is not subject to the FCP, being a regulated employer under the Employment Equity Act, S.C. 1995, c. 44;

(c) ( ) is subject to the requirements of the FCP, having a workforce of 100 or more full-time or part-time permanent employees, or temporary employees having worked 12 weeks or more in Canada, but has not previously obtained a certificate number from HRSDC (having not bid on requirements of $200,000 or more), in which case a duly signed certificate of commitment is attached;

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

Further information on the FCP is available on the HRSDC Web site.

1.2 Former Public Servant Certification

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

Definitions

For the purposes of this clause,

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

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

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

"pension" means, in the context of the fee abatement formula, a pension or annual allowance paid under the Public Service Superannuation Act (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the Supplementary Retirement Benefits Act, R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the Canadian Forces Superannuation Act, R.S., 1985, c. C-17, the Defence Services Pension Continuation Act, 1970, c. D-3, the Royal Canadian Mounted Police Pension Continuation Act , 1970, c. R-10, and the Royal Canadian Mounted Police Superannuation Act, R.S.,

1985, c. R-11, the Members of Parliament Retiring Allowances Act , R.S., 1985, c. M-5, and that portion of pension payable to the Canada Pension Plan Act, R.S., 1985, c. C-8.

Former Public Servant in Receipt of a Pension

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

If so, the Bidder must provide the following information:

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

Work Force Reduction Program

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of a work force reduction program? **YES ( ) NO ( )**

If so, the Bidder must provide the following information:

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

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is $5,000, including the Goods and Services Tax or Harmonized Sales Tax.

Certification

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

1.3 Canadian Content Certification

This procurement is limited to Canadian services.

The Bidder certifies for that:

( ) the services offered are Canadian services as defined in paragraph 4 of clause A3050T.

For more information on how to determine the Canadian content for a mix of goods, a mix of services or a mix of goods and services, consult Annex 3.6.(9), Example 2, of the Supply Manual.

1.3.1. SACC Manual clause A3050T (2010-01-11) Canadian Content Definition.

1.4 Status and Availability of Resources

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

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

1.5 Education and Experience

1.5.1 SACC Manual clause A3010T (2007-11-30) Education and Experience

PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS

1. Security Requirement

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

   (a) the Bidder must hold a valid organization security clearance as indicated in Part 7 - Resulting Contract Clauses;

   (b) the Bidder's proposed individuals requiring access to classified or protected information, assets or sensitive work site(s) must meet the security requirement as indicated in Part 7 - Resulting Contract Clauses;

   (c) the Bidder must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites.

2. Canada will not delay the award of any contract to allow bidders to obtain the required clearance.

3. For additional information on security requirements, bidders should consult the "Security Requirements for PWGSC Bid Solicitations - Instructions for Bidders" document on the Departmental Standard Procurement Documents Web site.

2. Financial Capability

SACC Manual clause A9033T (2007-11-30) Financial Capability

3. Controlled Goods Requirement

SACC Manual clause A9130T (2008-12-12) 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 *(to be completed at contract award)*

The Contractor must perform the Work in accordance with the Statement of Work at Annex A and the Contractor's technical bid entitled _____, dated _____, as and when requested by Canada during the period of the Contract.

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

1.1 Task Authorization

1.1.1 Minimum Work Guarantee

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. The Contractor must perform the Work described in the Contract as and when requested by Canada during the period of the Contract. 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 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.

1.1.2 Task Authorization Process

1. Any task required to be performed under the Contract must be authorized by the Procurement Authority, using form DND 626, Requisition on a Contract.

2. The Procurement Authority will provide the Contractor with a description of the work for the task to be performed, including as a minimum :

   (a) the details of the work to be performed;
   (b) a description of the deliverables to be submitted;

(c) a schedule indicating completion dates for the major activities and submission dates for the deliverables.

3. The Contractor must provide the Procurement Authority, within seven (7) calendar days of receipt of the request, with the following :

(a) a technical proposal outlining the proposed approach and methodology to meet requirement;

(b) the number of hours for each proposed individual or category, as applicable;

(c) a cost breakdown established in accordance with the Basis of Payment at Annex B. If the Contractor is proposing to subcontract part of the work, a cost breakdown for each proposed subcontractor is to be submitted;

(d) a proposed type of basis of payment for the task (i.e. firm price, limitation of expenditure or ceiling price). A limitation of expenditure or a ceiling price may be proposed instead of a firm price only in cases where the description of work for the task to be performed is not in sufficient detail to accurately establish a firm price; and

(e) a proposed method of payment.

4. The Procurement Authority will review the information provided by the Contractor and, if it is approved, will authorize the Contractor to proceed with the work by issuing a signed DND 626. Individual tasks exceeding the Procurement Authority's approval authority must be authorized by the Contracting Authority in accordance with the clause entitled Individual Task Authorizations - Financial Limitation and Approval Authority. The Contractor must not carry out any work on any task until it has received a signed form DND 626 from the Procurement Authority.

1.1.3 Inditidual Task Authorizations - Financial Limitation and Approval Authority

The Procurement Authority may approve a Task Authorization (TA) up to a limit of $200,000.00 (GST/HST extra), inclusiveof any amendments. Any TA to be issued in excess of that amount or any TA amendment which will increase the TA value above that amount must be approved by the Contracting Authority before issuance.

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 issued by Public Works and Government Services Canada.

2.1 General Conditions

2040 (2010-01-11), General Conditions - Research & Development, apply to and form part of the Contract.

2.2 Supplemental General Conditions

4002 (2008-12-12), Software Development or Modification Services, apply to and form part of the Contract.

2.3 SACC Manual Clauses

2.3.1 Canada to Own Intellectual Property Rights in Foreground Information

SACC Manual clause K3410C (2008-12-12) Canada to Own Intellectual Property Rights in Foreground Information

2.3.2 License to Intellectual Property Rights in Foreground Information

SACC Manual clause K3305C (2008-05-12) License to Intellectual Property Rights in Foreground Information

3. Security Requirement

1. The Contractor/Offeror must, at all times during the performance of the Contract/Standing Offer, hold a valid Facility Security Clearance at the level of **NATO SECRET**, issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).

2. The Contractor/Offeror personnel requiring access to PROTECTED/CLASSIFIED information, assets or sensitive work site(s) **must be a permanent resident of Canada or a citizen of Canada, United States, Australia or England and** must EACH hold a valid personnel security screening at the level of **RELIABILITY STATUS or SECRET** as required, granted or approved by CISD/PWGSC. Until the security screening of the Contractor personnel required by this Contract/Standing Offer has been completed satisfactorily by the CISD, PWGSC, the Contractor personnel **MAY NOT HAVE ACCESS** to PROTECTED/CLASSIFIED information or assets, and **MAY NOT ENTER** sites where such information or assets are kept, without an escort.

3. The Contractor/Offeror personnel requiring access to PROTECTED/CLASSIFIED information and/or assets bearing the caveat “CANADIAN EYES ONLY” **must be citizens of Canada** and EACH hold a valid personnel security screening at the level of **RELIABILITY STATUS or SECRET** as required**,** granted or approved by the CISD, PWGSC. Until the security screening of the Contractor personnel required by this Contract/Standing Offer has been completed satisfactorily by the CISD, PWGSC, the Contractor personnel **MAY NOT HAVE ACCESS** to CLASSIFIED information or assets, and **MAY NOT ENTER** sites where such information or assets are kept, without an escort.

4. The Contractor/Offeror personnel requiring access to **NATO UNCLASSIFIED** information, assets or sensitive work site(s) do not require to hold a personnel security clearance but **must be permanent residents of Canada or citizens of a NATO member country** and must have a need to know granted or approved by a NATO national security authority.

5. The Contractor/Offeror personnel requiring access to **NATO CLASSIFIED** information, assets or sensitive work site(s) **must be permanent residents of Canada or citizens of a NATO member country** and EACH hold a valid personnel security screening at the level of **NATO**

SECRET, granted or approved by a NATO national security authority. Until the security screening of the Contractor personnel required by this Contract/Standing Offer has been completed satisfactorily by the CISD, PWGSC, the Contractor personnel **MAY NOT HAVE ACCESS** to CLASSIFIED information or assets, and **MAY NOT ENTER** sites where such information or assets are kept, without an escort.

6. The Contractor/Offeror personnel requiring access to FOREIGN CLASSIFIED information, assets or sensitive work site(s) **must be a permanent resident of Canada or a citizen of Canada, United States, Australia or England and** EACH hold a valid personnel security screening at the level of **SECRET** or it's equivalent, granted, approved or verified by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC). Until the security screening of the Contractor personnel required by this Contract/Standing Offer has been completed satisfactorily by the CISD, PWGSC, the Contractor personnel **MAY NOT HAVE ACCESS** to CLASSIFIED information or assets, and **MAY NOT ENTER** sites where such information or assets are kept, without an escort**.**

7. The Contractor/Offeror personnel requiring access to FOREIGN CLASSIFIED information and/or assets bearing the caveat "CANADIAN EYES ONLY" **must be citizens of Canada** and EACH hold a valid personnel security screening at the level of **SECRET** or it's equivalent, granted or approved by the CISD, PWGSC. Until the security screening of the Contractor personnel required by this Contract/Standing Offer has been completed satisfactorily by the CISD, PWGSC, the Contractor personnel **MAY NOT HAVE ACCESS** to CLASSIFIED information or assets, and **MAY NOT ENTER** sites where such information or assets are kept, without an escort.

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

9. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.

10. The Contractor/Offeror must comply with the provisions of the:

    (a) Security Requirements Check List and security guide (if applicable), attached at Annex D;
    (b) *Industrial Security Manual* (Latest Edition).

NOTE: As Australia is not a NATO country, no NATO information will be released to Australians unless special permission is obtained from CISD

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

4. Term of Contract

4.1 Period of the Contract

The period of the Contract is from date of Contract to March 31, 2014 inclusive.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Martine Mombleau
Title: Procurement Specialist
Public Works and Government Services Canada
Acquisitions Branch
Quebec Region
901, Cap-Diamant Street, room 240
Quebec, Quebec, G1K 4K1
CANADA

Telephone: 418-649-2764
Facsimile: 418-648-2209
E-mail address: martine.mombleau@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 Project Authority *(to be completed at contract award)*

The Project Authority for the Contract is:

Name: _____
Defence Scientist
Defence Research and Development Canada - Valcartier
2459, boul. Pie-XI Nord
Québec, Québec
G3J 1X5

Telephone: 418-844-4000 ext. ____
Facsimile: 418-844-____
E-mail: _____@drdc-rddc.gc.ca

The Project 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 Project Authority,however the Project 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.

Note: In Annex A, Statement of Work, the "Project Authority" is also called "VRAPP Project Manager".

5.3 Contractor's Representative *(to be completed at contract award)*

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

Telephone: ___-___-____
Facsimile: ___-___-____
E-mail: _____.

5.4 Procurement Authority *(to be completed at contract award)*

Name: _____
Procurement Officer
Defence Research and Development Canada - Valcartier
2459, boul. Pie-XI Nord
Québec, Québec
G3J 1X5

Telephone: 418-844-4000 ext. ____
Facsimile: 418-844-____
E-mail: _____@drdc-rddc.gc.ca

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

6. Payment

6.1 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 Price TA

In consideration of the Contractor satisfactorily completing all of its obligations under the approved TA, the Contractor will be paid the firm price stipulated in the TA. Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

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

(b) Ceiling Price TA

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

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

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work unless they have been approved, in writing, by the Procurement 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, and profit, as determined in accordance with the Basis of Payment in Annex B, to the limitation of expenditure specified in the approved TA. Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

Canada's liability to the Contractor must not exceed the limitation of expenditure specified in the approved TA. No increase in the liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Procurement Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's liability being exceeded before obtaining the written approval of the Procurement Authority. The Contractor must notify the Procurement Authority in writing as to the adequacy of this sum:

(i) when it is 75 percent committed, or
(ii) four (4) months before the final delivery date specified in the TA, or
(iii) as soon as the Contractor considers that the funds provided are inadequate for the completion of the Work,

whichever comes first.

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

6.2 Limitation of Expenditure - Total Task Authorizations

1. Canada's total liability to the Contractor under the Contract for all Task Authorizations must not exceed $3,545,000.00. Customs duties are included, if applicable; and the Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

2. No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:

   (a) when it is 75 percent committed, or

   (b) four (4) months before the Contract expiry date, or

   (c) as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work,

   whichever comes first.

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

6.3 Method of Payment

6.3.1 Payments will be made not more frequently than every two months.

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

6.3.2.1 Single Payment

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

(a) an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;

(b) all such documents have been verified by Canada;

(c) the Work delivered has been accepted by Canada.

6.3.2.2 Milestone Payments (For a Firm Price TA)

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

(a) an accurate and complete invoice, and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;

(b) all work associated with the milestone and as applicable any deliverable required has been completed and accepted by Canada.

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

(a) Canada will make progress payments in accordance with the payment provisions of the Task Authorization and the Contract for cost incurred in the performance of the Work up to 90 percent of the amount claimed and approved by Canada if:

(i) an accurate and complete invoice and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;

(ii) the amount claimed is in accordance with the Basis of payment and the Task Authorization;

(iii) the total amount for all progress payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Task Authorization.

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

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

6.4 SACC Manual Clauses

6.4.1 T1204 - Direct Request by Customer Department

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

6.4.2 Cost Submission

SACC Manual clause C0305C (2008-05-12) Cost Submision

6.5 Discretionary Audit

6.5.1 Discretionary Audit

SACC Manual clause C0705C (2010-01-11) Discretionary Audit

7. Invoicing Instructions - Progress Claim

1. The Contractor must submit a claim for progress payment using form PWGSC-TPSGC 1111. Form PWGSC-TPSGC 1111 is available at the following Website_ http://www.pwgsc.gc.ca/acquisitions/text/forms/pdf/1111.pdf

Each claim must show:

(a) all information required on form PWGSC-TPSGC 1111;
(b) all applicable information detailed under the section entitled “Invoice Submission” of the general conditions;
(c) the Task Authorization (TA) number;
(d) the description of the milestone invoiced, as applicable.

2. For TAs subject to a Limitation of Expenditure or a Ceiling Price, each invoice must be supported by:

(a) a list of all expenses, in accordance with the TA;
(b) a copy of time sheets to support the time claimed;
(c) a copy of the invoices, receipts, vouchers for all direct expenses, travel and living expenses;

3. Goods and Services Tax (GST) or Harmonized Sales Tax (HST), as applicable, must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no GST/HST payable as it was claimed and payable under the previous claims for progress payments.

4. The Contractor must prepare and certify one original and two (2) copies of the claim on form PWGSC-TPSGC 1111, and forward it to the address shown on page 1 of the Contract for certification.

The Contracting Authority will then forward the original and two (2) copies of the claim to the Technical Authority for appropriate certification after inspection and acceptance of the Work takes place, and onward submission to the Payment Office for the remaining certification and payment.

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

8. Certifications

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

8.2 SACC Manual Clauses

8.2.1 Canadian Content Certification

SACC Manual clause A3060C (2008-05-12) Canadian Content Certification

9. Applicable Laws *(to be completed at contract award)*

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

10. Priority of Documents *(to be completed at contract award)*

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 (2008-12-12) Software Developement or Modification Services;
(c) the general conditions 2040 (2010-01-11) General Conditions - Research & Development;
(d) Annex A, Statement of Work;
(e) Annex B, Basis of Payment;
(f) Annex C, Contractor Disclosure of Foreground Information;
(g) Annex D, Security Requirements Check List;
(h) the signed Task Authorizations (including all of its annexes, if any);
(i) the Contractor's bid dated _____ .

11. Defence Contract

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

12. Foreign Nationals (Canadian Contractor)

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

13. Insurance

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

14. Controlled Goods Program

SACC Manual clause A9131C (2008-12-12), Controlled Goods Program

SACC Manual clause B4060C (2008-05-12), Controlled Goods

15. List of Non-consumable Equipment and Material

SACC Manual clause B6800C (2007-11-30), List of Non-consumable Equipment and Material

16. Canadian Forces Site Regulations

SACC Manual clause A9062C (2010-01-11), Canadian Forces Site Regulations

17. Identification Badge

SACC Manual clause A9065C (2006-06-16), Identification Badge

ANNEX A

STATEMENT OF WORK

The “Virtual Range for Advanced Platform Protection (VRAPP) - Statement of Work - Version 3.9 - March, 2010” appended to the bid sollicitation package is to be inserted at this point and forms part of this document.

The “Virtual Range for Advanced Platform Protection (VRAPP) - Contract Data Requirement List (CDRL) - Version 3.9 - Match, 2010” appended to this bid sollicitation package is to be inserted in appendix 1 to this annex.

The “Virtual Range for Advanced Platform Protection (VRAPP) - Data Item Description (DID) - Version 3.9 - March, 2010” appended to this bid sollicitation package is to be inserted in appendix 2 to this annex.

The “Resources Profiles - Typical Responsabilities, version 3.6” appended to this bid sollicitation package is to be inserted in appendix 3 to this annex.

DISCLOSURE CERTIFICATION

On completion of the Work, the Contractor must submit to the VRAPP Project Manager and to the Contracting Authority a copy of the Disclosure Certification attached as Annex C stating that all applicable disclosures were submitted or that there were no disclosures to submit under section 27 of general conditions 2040.

APPENDIX 1 TO ANNEX A

CONTRACT DATA REQUIREMENT LIST (CDRL)

The “Virtual Range for Advanced Platform Protection (VRAPP) - Contract Data Requirement List (CDRL) - Version 3.9 - March, 2010” appended to this bid sollicitation package is to be inserted at this point and forms part of this document.

APPENDIX 2 TO ANNEX A

DATA ITEM DESCRIPTION (DID)

The “Virtual Range for Advanced Platform Protection (VRAPP) - Data Item Description (DID) - Version 3.9 - March, 2010” appended to this bid sollicitation package is to be inserted at this point and forms part of this document.

APPENDIX 3 TO ANNEX A

RESOURCES PROFILES - TYPICAL RESPONSABILITIES

The “Resources Profiles - Typical Responsabilities, version 3.6” appended to this bid sollicitation package is to be inserted at this point and forms part of this document.

This document presents the typical responsibilities that the proposed resources for each resource category must be able to fulfill as part of this contract.

ANNEX B

BASIS OF PAYMENT

1. LABOUR: at the following all inclusive firm hourly rates (inclusive of overhead and profit)

Resource Categories	Firm Hourly Rates			
	Proposed Contract Period			
	Date of Award to 31 March 2011	April 1, 2011 to March 31, 2012	April 1, 2012 to March 31, 2013	April 1, 2013 to March 31, 2014
1. Project Manager (PM)	$	$	$	$
2. Lead System of Systems Architect (LSA)	$	$	$	$
3. Software Solution Architect (SSA)	$	$	$	$
4. Hardware Solution Architect (HSA)	$	$	$	$
5. User Interface Analyst (UIA)	$	$	$	$
6. System/Network Analyst (SNA)	$	$	$	$
7. Data Base Administrator (DBA)	$	$	$	$
8. Information Technology Security Analyst (ITSA)	$	$	$	$
9. Web Application Analyst (WAA)	$	$	$	$
10. Senior Programmer (SP)	$	$	$	$
11. Intermediate Programmer (IP)	$	$	$	$
12. Intermediate Web Developer (IWD)	$	$	$	$
13. Technical Writer / Webmaster (TWW)	$	$	$	$
14. Senior System Engineer (SSE)	$	$	$	$
15. Intermediate System Engineer (ISE)	$	$	$	$
16. Virtual Simulation Specialist (VSS)	$	$	$	$
17. Hybrid Simulation Specialist (HSS)	$	$	$	$

18. EO Warfare Advisor (EWA)	$	$	$	$
19. EO Systems Specialist (ESS)	$	$	$	$

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 its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the Treasury Board Travel Directive (http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/td-dv_e.asp), and with the other provisions of the directive referring to “travellers”, rather than those referring to “employees”.

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

6. OTHER DIRECT CHARGES: at actual cost without markup

Estimated Cost to a Limitation of Expenditure: $3,545,000.00
(GST/HST extra)

ANNEX C

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.

_____ _____

Name: Date
Title:

(Internal DRDC Valcartier)

_____ _____

Nom Date
Titre : (Technical authority)

ANNEX D

SECURITY REQUIREMENTS CHECK LIST

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

ANNEX E

MANDATORY AND POINT RATED
TECHNICAL EVALUATION CRITERIA

Note to bidders: *this annex applies only to the request for proposals and will therefore cease to apply on award of the contract.*

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 one or several of the following mandatory technical criteria will be declared non-responsive. Each criterion should be addressed separately.

1) Bidders must clearly indicate in their bid the names of all the proposed resources, as well as the personnel category for which each resource is being proposed. The following requirements apply:

   A) Only one (1) resource may be proposed for the "Project Manager" personnel category;

   B) A minimum of one (1) resource must be proposed for each of the following personnel categories, except for the electro-optical warfare advisor (EWA) category, for which a resource is not mandatory.

      1- Lead System of Systems Architect (LSA)
      2- Software Solutions Architect (SSA)
      3- Hardware Solutions Architect (HSA)
      4- User Interface Analyst (UIA)
      5- System/Network Analyst (SNA)
      6- Data Base Administrator (DBA)
      7- Information Technology Security Analyst (ITSA)
      8- Web Application Analyst (WAA)
      9- Senior Programmer (SP)
      10- Intermediate Programmer (IP)
      11- Intermediate Web Developer (IWD)
      12- Technical Writer / Webmaster (TWW)
      13- Senior Systems Engineer (SSE)
      14- Intermediate Systems Engineer (ISE)
      15- Virtual Simulation Specialist (VSS)
      16- Hybrid Simulation Specialist (HSS)
      17- Electro-Optical Warfare Advisor (EWA)
      18- EO Systems Specialist (ESS)

   C) The same resource may be proposed for more than one (1) personnel category, but for no more than four (4) categories;

   D) In total, bidders must propose a minimum of ten (10) resources.

Note: when a bidder proposes a resource for a resource category, the bidder must ensure that the proposed resource is able to carry out the typical responsibilities set out for that category. Typical responsibilities are set out in "Resource Profiles - Typical Responsibilities," in Appendix 3 of Annex A to this document.

2) POINT RATEDTECHNICAL CRITERIA

Each technical offer that meets all the mandatory requirements defined above will be evaluated and rated in terms of the following evaluation criteria:

Summary table of main point-rated technical criteria

EVALUATION CRITERIA	MAX.	MIN.
1.0 MANAGEMENT PROPOSAL	**80**	**48**
1.1 Experience of the project manager in managing comparable ($1M and above) projects in the fields of virtual and constructive simulations for defence applications	25	-
1.2 Experience of the project manager in managing comparable ($1M and above) projects in the EO warfare domain	25	-
1.3 Methods/tools for planning tasks	15	-
1.4 Methods/tools for following and monitoring tasks	15	-
2.0 EXPERIENCE OF PERSONNEL DIRECTLY INVOLVED IN PROJECT	**297**	**141**
2.1 Lead System of Systems Architect (LSA)	23	12
2.2 Software Solutions Architect (SSA)	21	10
2.3 Hardware Solutions Architect (HSA)	20	10
2.4 User Interface Analyst (UIA)	16	8
2.5 System/Network Analyst (SNA)	14	7
2.6 Data Base Administrator (DBA)	10	5
2.7 Information Technology Security Analyst (ITSA)	10	5
2.8 Web Application Analyst (WAA)	10	5
2.9 Senior Programmer (SP)	20	10
2.10 Intermediate Programmer (IP)	20	10
2.11 Intermediate Web Developer (IWD)	10	5
2.12 Technical Writer / Webmaster (TWW)	10	5
2.13 Senior Systems Engineer (SSE)	21	10
2.14 Intermediate Systems Engineer (ISE)	19	9

EVALUATION CRITERIA	MAX.	MIN.
2.15 Virtual Simulation Specialist (VSS)	23	11
2.16 Hybrid Simulation Specialist (HSS)	23	11
2.17 EO Warfare Advisor (EWA)	10	-
2.18 EO Systems Specialist (ESS)	17	8
3.0 Bidder (company) experience	**120**	**72**
3.1 Previous relevant experience of the bidder	60	-
3.2 Quality assurance process	20	-
3.3 Software development approach	20	-
3.4 Nature of products (commercial or internal) developed previously by the bidder	20	-

Detailed table of point-rated technical criteria

The detailed table of evaluation criteria can be found in Appendix 1 to this annex. It contains all of the above-mentioned main evaluation criteria as well as additional sub-criteria and points allocation methods.

APPENDIX 1 TO ANNEX E

DETAILED TABLE OF POINT-RATED TECHNICAL CRITERIA

The Detailed table of point-rated technical criteria appended to the bid sollicitation package is to be inserted at this point and forms part of this document.

ANNEX F

EVALUATION OF PRICE

Note to bidders: *this annex applies only to the request for proposals and will therefore cease to apply on award of the contract.*

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

An average hourly rate (for the four contract periods) will be calculated for each of the resource categories. **The average hourly rate must not be used in the contract; it will be used for evaluation purposes only.**

The percentages of use of the resource categories are presented in the table below and are used below in the bid price calculation.

RESOURCE CATEGORIES	PERCENTAGE OF USE
1. Project Manager (PM)	17%
2. Lead System of Systems Architect (LSA)	6%
3. Software Solution Architect (SSA)	6%
4. Hardware Solution Architect (HSA)	4%
5. User Interface Analyst (UIA)	2%
6. System/Network Analyst (SNA)	2%
7. Data Base Administrator (DBA)	2%
8. Information Technology Security Analyst (ITSA)	3%
9. Web Application Analyst (WAA)	3%
10. Senior Programmer (SP)	11%
11. Intermediate Programmer (IP)	17%
12. Intermediate Web Developer (IWD)	6%
13. Technical Writer / Webmaster (TWW)	9%
14. Senior System Engineer (SSE)	3%
15. Intermediate System Engineer (ISE)	3%
16. Virtual Simulation Specialist (VSS)	2%
17. Hybrid Simulation Specialist (HSS)	2%
18. EO Warfare Advisor (EWA)	1%
19. EO Systems Specialist (ESS)	1%

Bid price calculation

1- Determine the number of available work hours for a given resource category

The number of available work hours for a resource category is calculated as follows:

$$\frac{\text{[total funding available] X [percentage of use]}}{\text{[lowest average hourly rate for the resource category]}}$$

2- Determine the labour costs for a given resource category

The labour costs for a given resource category are obtained by multiplying the number of available work hours by the average hourly rate of the personnel category.

> *Note : It is not mandatory to propose a resource for the category EO Warfare Advisor (EWA). For bidders who propose no resource for this category, the calculation of the labour costs for the resource category will be based on the highest average hourly rate for the resource category.*

3- Determine the bid price

The bid price is calculated by adding up all of the labour costs of each personnel category for a given bid.

For example,

- Total funding available = $3,545,000
- Percentage of use for the Project Manager (PM) = 17%
- If the average hourly rate for bid A = $70, the average hourly rate for bid B = $80 and the average hourly rate for bid C = $100, then the lowest average hourly rate for the resource category = $70.

Therefore,

- Number of available work hours for the Project Manager (PM) = $3,545,000 x 17% ÷ $70 = 8,609.29 hours

and

- Labour costs for the Project Manager (PM), bid A = 8,609.29 hours x $70 = $602,650
- Labour costs for the Project Manager (PM), bid B = 8,609.29 hours x $80 = $688,743
- Labour costs for the Project Manager (PM), bid C = 8,609.29 hours x $100 = $860,929

Sample calculations for three bid prices

Resource Categories	% of use	Average Rate for A	Price for A	Average Rate for B	Price for B	Average Rate for C	Price for C	Available work hours
1. Project Manager (PM)	17 %	$70.00	$602,650	$80.00	$688,743	$100.00	$860,929	8609.29
2. Lead System of Systems Architect (LSA)	6 %	$65.00	$276,510	$70.00	$297,780	$60.00	$212,700	4254
3. Software Solution Architect (SSA)	6 %	$60.00	$212,700	$65.00	$230,425	$70.00	$248,150	3545

4. Hardware Solution Architect (HSA)	4 %	$55.00	$259,967	$60.00	$283,600	$30.00	$141,800	4726.67
5. User Interface Analyst (UIA)	2 %	$50.00	$70,900	$55.00	$77,990	$60.00	$85,080	1418
6. System/Network Analyst (SNA)	2 %	$45.00	$70,900	$50.00	$78,778	$55.00	$86,656	1575.56
7. Data Base Administrator (DBA)	2 %	$25.00	$70,900	$45.00	$127,620	$50.00	$141,800	2836
8. Information Technology Security Analyst (ITSA)	3 %	$35.00	$186,113	$40.00	$212,700	$20.00	$106,350	5317.5
9. Web Application Analyst (WAA)	3 %	$30.00	$106,350	$35.00	$124,075	$40.00	$141,800	3545
10. Senior Programmer (SP)	11 %	$25.00	$389,950	$80.00	$1,247,840	$35.00	$545,930	15598
11. Intermediate Programmer (IP)	17 %	$55.00	$1,104,858	$35.00	$703,092	$30.00	$602,650	20088.33
12. Intermediate Web Developer (IWD)	6 %	$40.00	$425,400	$20.00	$212,700	$25.00	$265,875	10635
13. Technical Writer / Webmaster (TWW)	9 %	$40.00	$510,480	$25.00	$319,050	$30.00	$382,860	12762
14. Senior System Engineer (SSE)	3 %	$25.00	$106,350	$30.00	$127,620	$35.00	$148,890	4254
15. Intermediate System Engineer (ISE)	3 %	$30.00	$159,525	$35.00	$186,113	$20.00	$106,350	5317.5
16. Virtual Simulation Specialist (VSS)	2 %	$25.00	$70,900	$40.00	$113,440	$45.00	$127,620	2836
17. Hybrid Simulation Specialist (HSS)	2 %	$40.00	$70,900	$45.00	$79,763	$50.00	$88,625	1772.5
18. EO Warfare Advisor (EWA)	1 %	$45.00	$35,450	$45.00	$35,450	$45.00	$35,450	787.78
19. EO Systems Specialist (ESS)	1 %	$50.00	$35,450	$55.00	$38,995	$60.00	$42,540	709
BID PRICE		**$4,766,253**		**$5,185,772**		**$4,372,054**		**X**

Note: These rates are provided as an example only and must not be interpreted as an indicator of the experience of the labour categories.

VIRTUAL RANGE FOR ADVANCED PLATFORM PROTECTION (VRAPP)

Statement of Work

Version 3.9
March 2010

Defence R&D Canada – Valcartier

TABLE OF CONTENTS

1.0 SCOPE

1.1 Background

Electro-optic (EO) based weapons systems represent dangerous and rapidly proliferating threats that land, air and sea platforms are facing. These threats will undoubtedly continue to be of primary concern for years to come since an increasing number of these systems, of both known and new generation designs, are being deployed. The increasing complexity, variability and diversity of EO threats are prominent challenges currently facing countermeasure designers.

Equipping a platform with a self-protection system does not systematically ensure that it is adequately protected against emerging, and even conventional, threats. Indeed, to be effective, a self-protection system must be triggered by a warning system and activate an appropriate countermeasure sequence. Moreover, the adequate employment of a self-protection system is dependent on the platform to be protected, the conditions of the engagement and the threat.

Therefore, the development of countermeasure techniques and their employment against EO threats requires a robust capability that must include: experimental tools for conducting efficient analysis; engineering processes to ensure consistency in the results; and a Verification and Validation (V&V) process to provide the required level of detail.

As an answer to this requirement, DRDC Valcartier initiated the VRAPP Technology Demonstration Project (TDP) that aims, in particular, at providing a virtual demonstration capacity for the analysis and development of self-protection means against known and foreseen EO threat systems. Practically, the VRAPP TDP will demonstrate a comprehensive and thorough approach for addressing EO warfare engineering and training issues including the integration of existing virtual, live and hybrid simulation systems involving a synthetic environment. Work will also be carried out to define integrated engineering processes driving the development of EO countermeasure techniques, as well as a rigorous V&V methodology.

1.2 Purpose

The strategic objective of the VRAPP TDP is to establish and demonstrate a comprehensive and thorough approach for addressing certain force protection issues. Practically, the VRAPP TDP involves:

- Establishing and demonstrating a standardized and robust synthetic environment framework for conducting reliable engagement analysis between EO threat systems, platforms and countermeasures;
- Defining and demonstrating standardized and integrated engineering processes for driving the development of EO countermeasure techniques

(including model development and validation, data collection, results analysis, etc); and

- Defining and demonstrating a rigorous V&V methodology to ensure the desired level of detail for the problem under study, and the reliability of the analysis output.

VRAPP will have the capacity to simulate various types of EO engagement scenarios, from basic (one-on-one) to multiple (many-on-many) engagements using complex/advanced countermeasure techniques.

1.3 Description

VRAPP will consist of a System of Systems (SoS) of integrated simulators supported by effective processes. As illustrated in Figure 1, the main VRAPP systems will comprise three tiers of engagement servers linked through a collaborative network for data sharing and distribution.

The Tier 1 engagement server will offer external customers direct access to EO engagement services for distributed simulation exercises or for standalone, local usage. It will include all required components (CGF, model repository, etc.) to carry out EO engagement simulations with physics-based models with a medium level of detail regarding threats, platforms (targets), countermeasure systems and environment.

Although very similar in nature, the Tier 2 engagement server will essentially be used as a development, test and evaluation environment for the software components that are subsequently migrated to the Tier 1 server once validated. In other words, the Tier 2 server will be used to develop and validate the models before they are made available to operational applications. The Tier 2 server will also have the important role of being the access interface to the Tier 3 servers through Tier 1.

The Tier 3 servers will offer EO engagement services with a high level of detail for standalone or distributed usage. As shown in Figure 1, the Tier 3 servers comprise three (3) independent hardware-in-the-loop (HWIL) simulators providing representations with a high level of detail regarding specific elements of the self-protection problem (threat, MAWS, etc.). These simulators (also called Tier 3 engagement servers) will be used either on a standalone basis for specific investigations, or accessed by an external customer through the Tier 1 and 2 servers as systems with a high level of detail in a distributed simulation. The Tier 3 servers will also include an experimental database of results from various live experiments that could be useful for component validation.

The VRAPP simulators will be managed through a series of engineering processes to ensure consistency in usage and validity of the results.

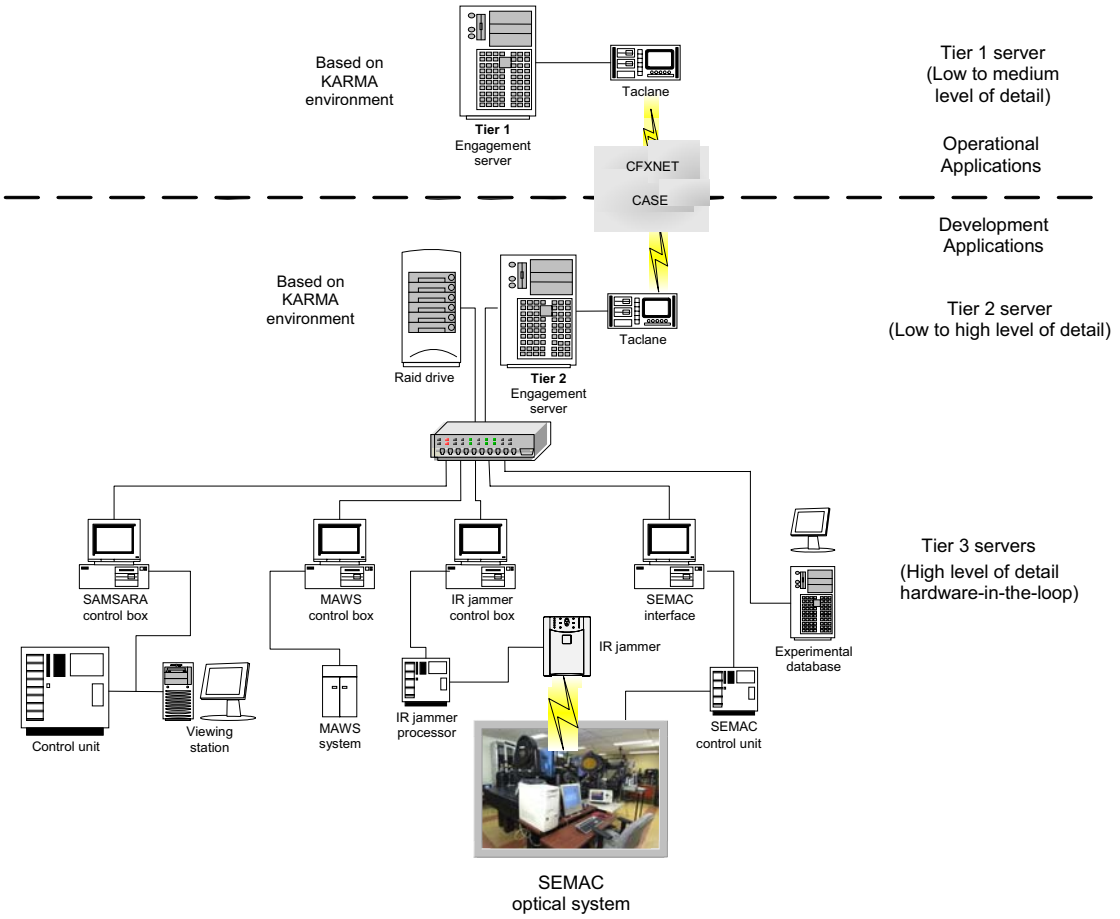

Figure 1 – Main VRAPP systems

1.4 Approach

This capability will be obtained by integrating and improving existing DRDC Valcartier facilities, namely the SEMAC HWIL simulator, the SAMSARA hybrid simulator, a missile approach warning system (MAWS), and the KARMA synthetic environment, into an SoS. This integrated capability will then support hybrid and constructive simulations of EO engagements.

This Statement of Work (SOW) covers the work required to design and fabricate the VRAPP system, and to provide support to the two demonstrations scheduled within the VRAPP TDP.

The work detailed below requires: the design, fabrication, demonstration and delivery, through a spiral development process (see Figure 2), of one (1) virtual proving ground prototype (hardware and software) ready for use at DRDC Valcartier with a view to a transition to the CF, and one engagement server in Ottawa (exact location to be determined).

The VRAPP virtual proving ground will integrate and improve existing DRDC Valcartier equipment for EO countermeasure analysis. The work includes

delivery of complete technical documents detailing the system specifications to the level required for its update and future development, and the user documentation necessary for its operation by DND technical personnel, as well as delivery of all administrative and technical documentation, and provision of the required technical support during the project demonstrations.

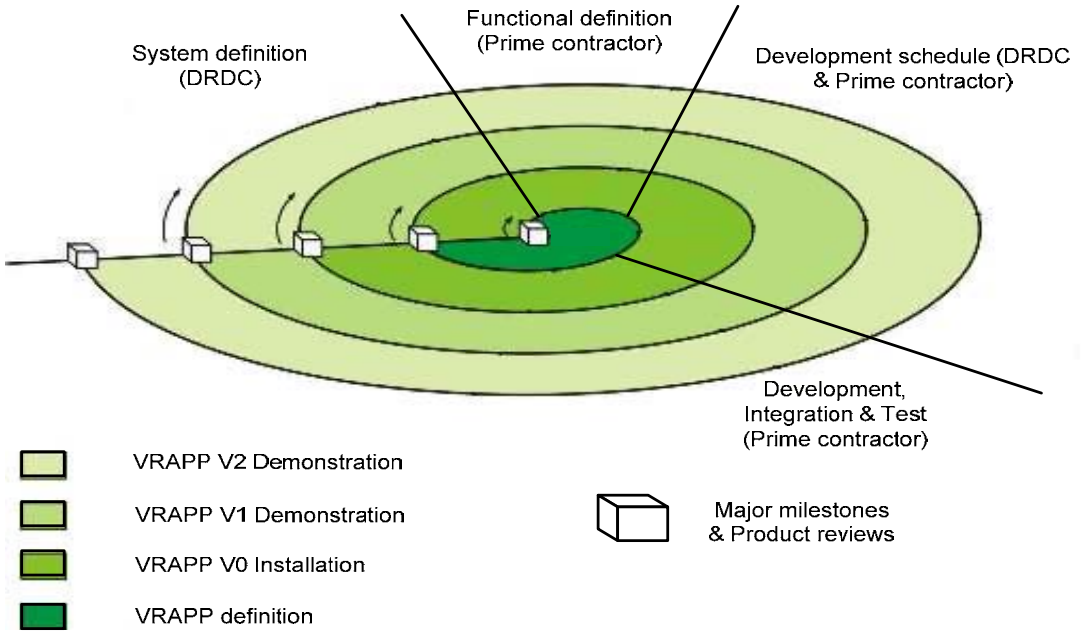

Figure 2 – VRAPP spiral development process

2.0 APPLICABLE DOCUMENTS

2.1 Applicability

The documents listed in this section are part of this SOW to the extent specified herein, and support the SOW. All other document references are to be considered supplemental information only. Unless otherwise specified, the official documents for this contract must be those in effect on the date of contract award. In the event of a conflict between documents referenced and the SOW, the SOW must take precedence.

2.2 DND Documents

The technical documents are DND owned and will be provided 1) to all tenderers, along with the RFP, to facilitate the preparation of the proposals, or 2) to the selected contractor only once the contract is granted. The latter option is required since many documents within the technical documents package are classified with a limited distribution and cannot be released publicly.

The documents will be provided in their language of publication only.

2.2.1 General Documents (releasable to tenderers)

- VRAPP System Engineering Process, Defence R&D Canada – Valcartier, December 2008.

2.2.2 Specific Documents (releasable only to the selected contractor)

- VRAPP Statement of Requirements, Version 0, Defence R&D Canada – Valcartier, March 2010.
- VRAPP Technical Specifications, Version 0, Defence R&D Canada – Valcartier.
- VRAPP Technical Documents Package, Defence R&D Canada – Valcartier, 17 July 2007.[1]
- Verification & Validation Process V0.95, Defence R&D Canada – Valcartier, September 2008.
- Karma Development Guidelines 1,1 March 2010
- RDDC Valcartier Facilities System Overview, R&D pour la défense Canada – Valcartier, Mars 2010.

2.2.3 Applicable Standards

- MIL-STD-1472F Design Criteria Standard: Human Engineering.
- MIL-HDBK-46855 Human Engineering Guidelines for Military Systems, Equipment and Facilities.

This standard and its associated handbook are not mandatory, but could be used as guidelines for human engineering considerations (for example, the definition of the user interfaces).

2.3 Non-military Documents

IEEE Std1220-2005 IEEE Standard for Application and Management of the Systems Engineering Process
IEEE Std 730-1998 IEEE Standard for Software Quality Assurance Plans
IEEE Std 1490-2003 – Adoption of PMI Standard – A Guide to the Project Management Body of Knowledge

2.4 Acronyms and Abbreviations

Table 1 defines the abbreviations and acronyms used throughout this document

Table 1 – Definition of abbreviations and acronyms.

CDRL	Contract Data Requirement List
CF	Canadian Forces

[1] The VRAPP technical documents package version 1.0 includes some 341 files (for a total of 131 MB), mostly in PDF format, covering the various components to be integrated in VRAPP. These files include various documents, reports, schematics and diagrams that describe SEMAC, the SAMSARA hybrid simulator, the missile approach warning system and the KARMA synthetic environment.

CFAWC	Canadian Forces Aerospace Warfare Centre
CGF	Computer Generated Forces
DID	Data Item Description
DND	Department of National Defence
DR	Design Review
DRDC	Defence Research and Development Canada
DRM	Design Review Meeting
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
EO	Electro-Optical
EOW	Electro-Optical Warfare
FPR	Final Product Review
FPRM	Final Project Review Meeting
HWIL	Hardware In the Loop
i.e.	that is to say
IEEE	Institute of Electrical and Electronics Engineers
MAWS	Missile Approach Warning System
MM	Meeting Minutes
MPS	Master Project Schedule
MTP	Master Test Plan
PDF	Portable Document Format
PDR	Preliminary Design Review
PDRM	Preliminary Design Review Meeting
PM	Project Manager
PMP	Project Management Plan
PR	Product Review
PRM	Product Review Meeting
RM	Review Meeting
SEMP	System Engineering Management Plan
SME	Subject Matter Expert
SOR	Statement of Requirements
SoS	System of Systems
SOW	Statement of Work
STE	Science and Technology Expert
SUM	Software User Manual

TDP	Technology Demonstration Program
UML	Unified Modeling Language
V&V	Verification and Validation
VDD	VRAPP Design Description
VRAPP	Virtual Range for Advanced Platform Protection
VSI	VRAPP System Integration
VSIRM	VRAPP System Integration Review Meeting

3.0 PROJECT MANAGEMENT

3.1 General

The Gantt chart for the VRAPP TDP shown in Figure 3 gives an example of how the tasks of this SOW could be integrated into the VRAPP TDP schedule. This contract concerns Section E.2.

This contract is divided into eight (8) specific tasks that are summarized in Figure 4. These eight tasks are described in the following pages. Although most of the tasks are performed sequentially, some tasks could be performed in parallel.

All tasks are subject to task authorization.

ID	Task Name	Duration	Start	Finish
1	**Phase A - Definition**	**12,25 mons**	**Mon 06-04-03**	**Fri 07-03-09**
6	**Phase B - Contracting**	**64,4 mons?**	**Mon 06-09-04**	**Wed 11-08-10**
26	**Phase C - Collaborations**	**39,95 mons**	**Mon 07-04-16**	**Thu 10-05-06**
30	**Phase D - Preliminary analysis**	**19,7 mons?**	**Tue 07-05-01**	**Fri 08-10-31**
47	**Phase E - Development**	**78,4 mons**	**Mon 08-06-02**	**Wed 14-06-04**
48	**E.1 Methods**	**42,75 mons**	**Mon 08-06-02**	**Fri 11-09-09**
77	**E.2 Simulation tools**	**72,9 mons**	**Mon 08-11-03**	**Wed 14-06-04**
78	**Elaborate technical specifications**	**61,65 mons**	**Mon 08-11-03**	**Wed 13-07-24**
79	Tier 1 & 2 servers V0	15 mons	Mon 08-11-03	Fri 09-12-25
80	Tier 1 & 2 servers V1	0,5 mons	Mon 10-10-04	Fri 10-10-15
81	Tier 1 & 2 servers V2	0,5 mons	Mon 11-07-11	Fri 11-07-22
82	Tier 3 servers V1	1 mon	Mon 10-10-04	Fri 10-10-29
83	Tier 3 servers V2	0,5 mons	Thu 13-07-11	Wed 13-07-24
84	**Development tasks**	**54,4 mons**	**Mon 10-04-05**	**Wed 14-06-04**
85	**Task 1: Tier 1 & 2 servers V0**	**7 mons**	**Mon 10-04-05**	**Fri 10-10-15**
86	Preliminary design	0,75 mons	Mon 10-04-05	Fri 10-04-23
87	Preliminary Design Review (PDR)	0,25 mons	Mon 10-04-26	Fri 10-04-30
88	Detailed design	2,5 mons	Mon 10-05-03	Fri 10-07-09
89	Design Review (DR)	0,5 mons	Mon 10-07-12	Fri 10-07-23
90	Integration and test	2,25 mons	Mon 10-07-26	Fri 10-09-24
91	Laboratory-level demonstration	0,25 mons	Mon 10-09-27	Fri 10-10-01
92	Product Review (PR)	0,5 mons	Mon 10-10-04	Fri 10-10-15
93	**Task 2: Tier 1 & 2 servers V1**	**10 mons**	**Mon 10-10-18**	**Fri 11-07-22**
94	Preliminary design	0,75 mons	Mon 10-10-18	Fri 10-11-05
95	Preliminary Design Review (PDR)	0,25 mons	Mon 10-11-08	Fri 10-11-12
96	Detailed design	2,5 mons	Mon 10-11-15	Fri 11-01-21
97	Design Review (DR)	0,5 mons	Mon 11-01-24	Fri 11-02-04
98	Integration and test	4,75 mons	Mon 11-02-07	Fri 11-06-17
99	Deployment of Tier 1 server	0,75 mons	Mon 11-06-20	Fri 11-07-08
100	Product Review (PR)	0,5 mons	Mon 11-07-11	Fri 11-07-22
101	**Task 3: First demonstration**	**7,5 mons**	**Wed 12-01-04**	**Tue 12-07-31**
102	Definition and preparation	3 mons	Wed 12-01-04	Tue 12-03-27
103	Demonstration	0,25 mons	Wed 12-07-25	Tue 12-07-31
104	**Task 4: Tier 1 & 2 servers V2**	**12 mons**	**Mon 11-07-25**	**Fri 12-06-22**
105	Preliminary design	0,75 mons	Mon 11-07-25	Fri 11-08-12
106	Preliminary Design Review (PDR)	0,25 mons	Mon 11-08-15	Fri 11-08-19
107	Detailed design	2,5 mons	Mon 11-08-22	Fri 11-10-28
108	Design Review (DR)	0,5 mons	Mon 11-10-31	Fri 11-11-11
109	Integration and test	7 mons	Mon 11-11-14	Fri 12-05-25
110	Deployment of Tier 1 server	0,5 mons	Mon 12-05-28	Fri 12-06-08
111	Product Review (PR)	0,5 mons	Mon 12-06-11	Fri 12-06-22
112	**Task 5: Tier 3 servers V1 definition**	**8 mons**	**Thu 12-04-05**	**Wed 12-11-14**
113	Preliminary design	1,75 mons	Thu 12-04-05	Wed 12-05-23
114	Preliminary Design Review (PDR)	0,25 mons	Thu 12-05-24	Wed 12-05-30
115	Detailed design	5,5 mons	Thu 12-05-31	Wed 12-10-31
116	Design Review (DR)	0,5 mons	Thu 12-11-01	Wed 12-11-14
117	**Task 6: Tier 3 servers V1 development**	**9 mons**	**Thu 12-11-15**	**Wed 13-07-24**
118	Integration and test	8,5 mons	Thu 12-11-15	Wed 13-07-10
119	Product Review (PR)	0,5 mons	Thu 13-07-11	Wed 13-07-24
120	**Task 7: Tier 3 servers V2**	**11 mons**	**Thu 13-07-25**	**Wed 14-05-28**
121	Preliminary design	0,75 mons	Thu 13-07-25	Wed 13-08-14
122	Preliminary Design Review (PDR)	0,25 mons	Thu 13-08-15	Wed 13-08-21
123	Detailed design	2,5 mons	Thu 13-08-22	Wed 13-10-30
124	Design Review (DR)	0,5 mons	Thu 13-10-31	Wed 13-11-13
125	Integration and test	5,75 mons	Thu 13-11-14	Wed 14-04-23
126	Deployment of Tier 3 servers	0,75 mons	Thu 14-04-24	Wed 14-05-14
127	Product Review (PR)	0,5 mons	Thu 14-05-15	Wed 14-05-28
128	**Task 8: Second demonstration**	**13,15 mons**	**Mon 13-06-03**	**Wed 14-06-04**
129	Definition and preparation	3 mons	Mon 13-06-03	Fri 13-08-23
130	Demonstration	0,25 mons	Thu 14-05-29	Wed 14-06-04
131	**Phase F - Reporting**	**109,8 mons?**	**Mon 06-04-03**	**Mon 14-09-01**

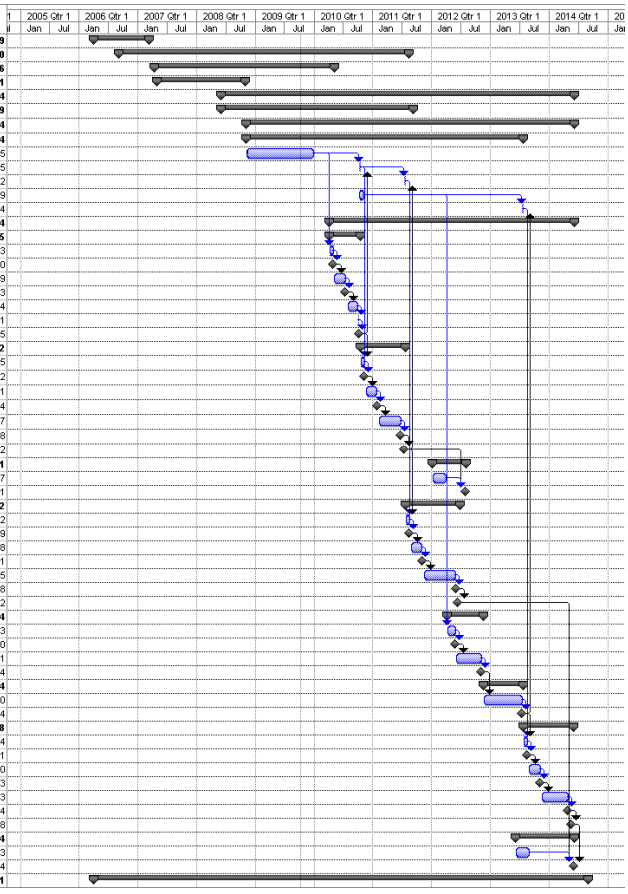

Figure 3 – VRAPP TDP initial master schedule (compact format)

3.2 Task Authorization Plan

The vertical arrows in Figure 4 represent the task authorizations that should normally follow the product review (PR) meetings, except for tasks 1 and 5. The

horizontal dashed lines represent VRAPP System Integration Review Meetings (VSIRM).

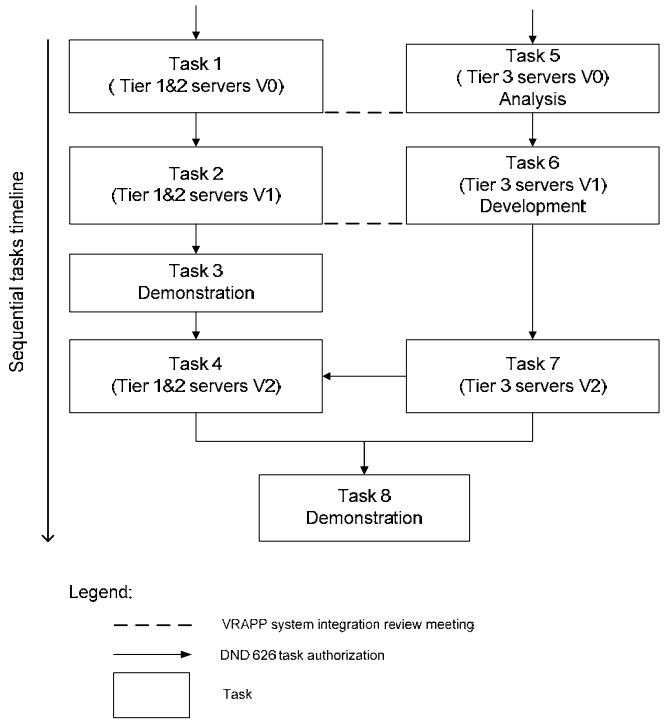

Figure 4 – Task authorization plan (subject to modification)

4.0 DETAILED WORK PLAN

4.1 System Definition

The Contractor must design, develop and deliver a fully functional and operational SoS that meets the requirements stated in the VRAPP SOR, and in agreement with the latest version of the VRAPP technical specifications document. The detailed process to apply is described in the document entitled "VRAPP System Engineering Process Guidelines," which is a specific adaptation of the IEEE-1220 standard to the VRAPP project.

4.2 Technical Constraints

The VRAPP synthetic environment must be open, modular, expandable, reusable and interoperable. The VRAPP synthetic environment must have unlimited distribution, be without restrictions and be supplied or available for free. The source code must be available, object-oriented and modular. The development environment must use known tools and operating systems. The

simulation architecture must be compatible with existing DRDC models and existing software and hardware components.

4.3 Configuration Management

The Contractor must apply a configuration management process to all the work in this contract, according to the VRAPP technical specifications.

4.4 Verification and Validation (V&V)

The Contractor is responsible for verifying and validating the VRAPP architecture and the physics-based models and simulations developed and/or used under the contract, based on the V&V process supplied with form DND 626. The Contractor must document the results of the V&V work in compliance with the process supplied.

4.5 Quality Assurance

All work completed during this contract is subject to quality verification by the VRAPP PM in accordance with the approved SEMP. In addition, the Contractor must apply a formal quality assurance process (for instance IEEE Std 730-1998 IEEE Standard for Software Quality Assurance Plans, for guidance on quality assurance) to ensure suitable control over the quality of the products, including the management of its personnel and the deliverables.

4.6 Electromagnetic Compatibility (EMC) Control

The Contractor must conduct EMC control subtasks in accordance with the approved SEMP. This will consist of ensuring that any added hardware components do not have a detrimental effect on existing VRAPP systems.

4.7 Baseline Information

The baseline technical information for the development of VRAPP is detailed in three documents: 1) VRAPP SOR; 2) VRAPP technical specifications; and 3) VRAPP technical documents package. The SOR details the SoS conditions and the equipment to be integrated. The technical specifications provide detailed technical information (interfaces, functionalities, etc.) on the elements to be integrated and the global SoS. The technical documents package provides all available technical information for each system (HWIL simulators, synthetic environment, etc.) to be integrated.

4.8 Types of Subtasks

This section describes the different types of subtasks that can be found under each of the eight tasks.

4.8.1 Preliminary Design

The purpose of the preliminary design subtask is to transform the technical requirements into a logical description of system functions. The technical requirements are divided and assigned to subsystems/components. These assigned requirements are documented and validated. The objective is to identify function, performance and interface design requirements, and not to design a solution as such.

The Contractor must produce a functional architecture of the server at the end of this subtask for review and approval by the VRAPP PM at the preliminary design review.

Any newly designed software and/or hardware must be documented in a document called VRAPP Design Description (VDD).

The preliminary design ends with publication of the preliminary design technical review (PDR) and its associated meeting.

4.8.2 Preliminary Design Review (PDR)

A PDR meeting will be held to evaluate the preliminary design submitted by the Contractor. The Contractor must demonstrate that its preliminary design proposal meets the VRAPP requirements, technical specifications and applicable constraints, using the technical review documentation. After evaluation, the VRAPP PM will inform the Contractor if he may go ahead with the detailed design subtask if not, the Contractor must correct and re-submit a new proposal in a new PDR meeting at his own cost.

4.8.3 Detailed Design

The objective of the detailed design is to combine and restructure hardware and software components in such a way as to achieve a design solution capable of satisfying the stated requirements. In other words, the functional architecture is transformed into a physical architecture. The choice of the architecture must be supported by comparative studies and performance and effectiveness analyses.

Upon approval of the documentation presented during the PDR meeting, the Contractor must produce the detailed design (physical architecture) of the VRAPP SoS based on the technical specifications provided by the VRAPP PM. The Contractor must ensure that all system architecture updates, schematics and diagrams are complete and placed under configuration control.

The Contractor must document the design of the VRAPP hardware and software components and update the VDD documents.

The detailed design subtask ends with publication of the detailed design technical review (DR) and its associated meeting.

4.8.4 Design Review (DR)

A DR meeting will be held to evaluate the detailed design submitted by the Contractor. The Contractor must demonstrate that his preliminary design proposal meets the VRAPP technical specifications and applicable constraints, using the technical review documentation. After evaluation, the VRAPP PM will

inform the Contractor if he may go ahead with the development, integration and test subtask; if not the Contractor must correct and re-submit a new proposal in a new DR meeting at his own cost.

4.8.5 Development, Integration and Test

The Contractor must:

- develop and integrate the required hardware and software components;
- conduct component and system tests;
- deliver and demonstrate the final product; and
- produce the technical documentation.

The Contractor must conduct component and system tests in accordance with the master test plan (MTP). If the tests are to be conducted on DRDC Valcartier premises, the VRAPP PM will provide the necessary laboratory instrumentation (oscilloscope, etc.), otherwise the instrumentation will be the Contractor's responsibility. The Contractor must collect and analyze the test results to demonstrate that the product meets the requirements and technical specifications. The Contractor must make all test results available for review by the VRAPP PM.

The Contractor must complete the documentation and testing of the product to demonstrate its full compliance with the SOR and the technical specifications. The Contractor must also prepare and publish the updated VDDs.

The development, integration and test subtask ends with publication of the product technical review and its associated meeting.

4.8.6 Product Review (PR)

The proof of concept in the laboratory (development, integration and test) will be followed by a product review aimed at reviewing and evaluating the design implemented for the VRAPP applicable subsystems. The Contractor must demonstrate that the product meets the SOR and technical specifications, using the technical review documentation. After evaluation, the VRAPP PM will inform the Contractor whether the product is acceptable or whether corrective work will be requested to rectify the issues. In the latter case, the Contractor must repeat the development, integration and test subtask, and re-submit the product in a new DR meeting.

4.9 Summary of Main Tasks

This subsection defines the objectives for each task and summarizes the work to complete them. The Contractor must therefore define the work to be done based on the information provided.

4.9.1 Task 1 (Tier 1 and 2 servers V0)

In task 1, in a first spiral development cycle, the Contractor must develop a prototype (called V0) of the Tier 1 and 2 servers based on the technical specifications V0 supplied in the form DND 626 at the time of the task authorization. As shown in Figure 5, task 1 comprises the following subtasks: preliminary design, preliminary design review, detailed design, design review, development, integration and test, and product review.

Not all functionalities or systems will be fully integrated in this task. The Contractor's preliminary design proposal must include the list of systems that are deemed critical from the technical aspect, accompanied by the relevant rationale.

The Contractor must implement and provide technical support on the client site for delivery and installation of the Tier 1 and 2 servers V0.

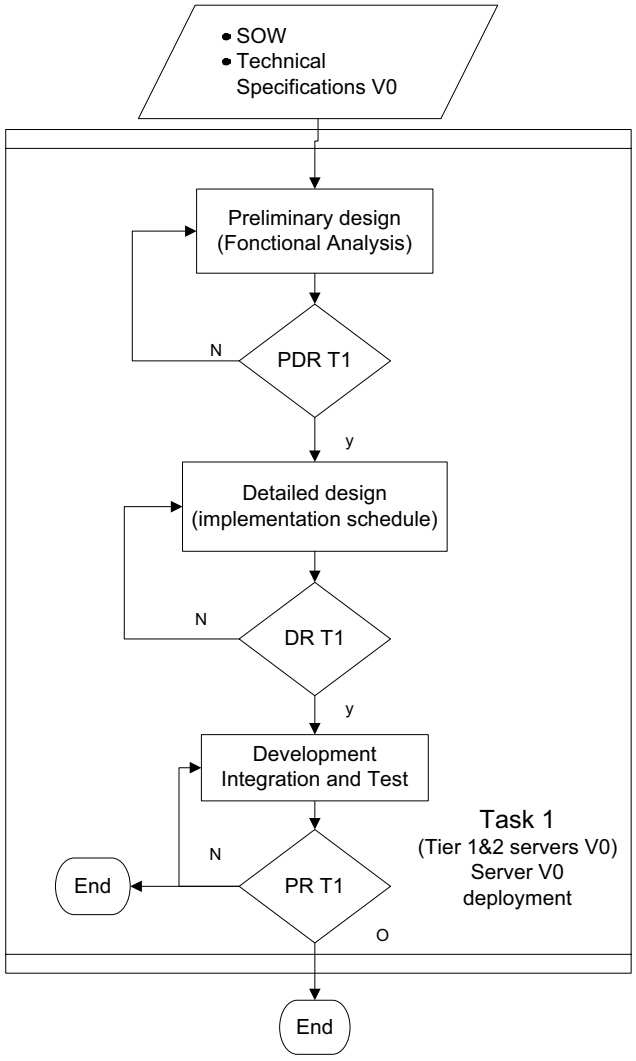

Figure 5 – Planned flow for task 1

4.9.2 Task 2 (Tier 1 and 2 servers V1)

In task 2, in a new spiral development cycle, the Contractor must develop a first operational version (called V1) of the Tier 1 and 2 servers based on the lessons learned from the first spiral (V0) and the technical specifications V1 (Figure 6) supplied in form DND 626 at the time of the task authorization. As shown in Figure 6, task 2 comprises the following subtasks: preliminary design, preliminary design review, detailed design, design review, development, integration and test, and product review.

The Tier 2 server V1 must include the basic functionalities for consistently conducting EO engagements within a typical development environment (i.e., an environment composed of science and technology experts (STEs) with a good

knowledge of the technical issues and with sufficient technical resources for detecting and correcting problems as they arise).

The Tier 1 server V1 must include the basic functionalities for consistently conducting EO engagements within a typical operational environment (i.e., an environment composed of subject matter experts (SMEs), DND personnel, military or other, with a limited knowledge of the technical issues related to EO engagements).

The Contractor must implement and provide technical support on the client site for delivery and installation of the Tier 1 and 2 servers V1.

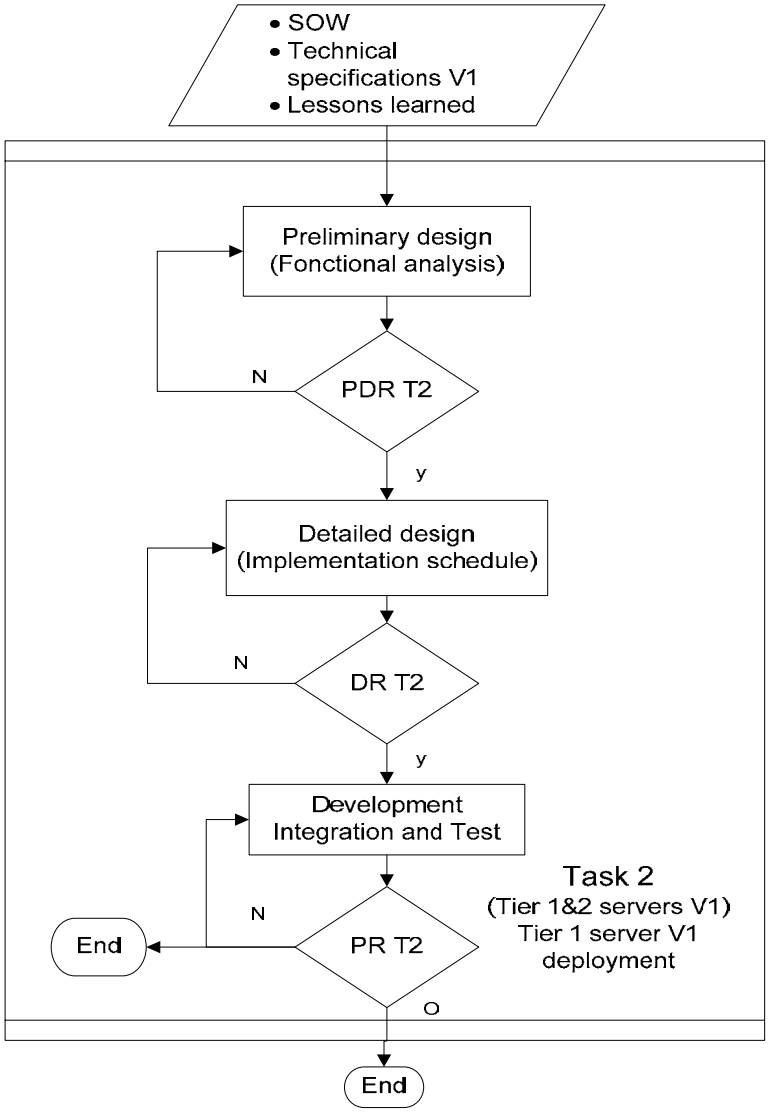

Figure 6 – Planned flow for task 2

4.9.3 Task 3 (demonstration)

In task 3, the Contractor must develop and present a demonstration. The objective of the demonstration is to show the capability of VRAPP to increase the fidelity of training simulators in the area of EOW. The demonstration will focus on enhancing current EOW training capabilities for aircrews.

The scenario requirements for the demonstration and the performance measurements will be specified and provided in the form DND 626 at the time of the task authorization. Planning of the demonstration will be managed by the VRAPP PM. The Contractor must create the scenario and vignettes of the demonstration, prepare, execute and analyze the planned simulation, and capture the lessons learned. The requirements for the detailed scenario must be defined at the beginning of this task and presented to the VRAPP PM, who will validate it with the DND customer to ensure its pertinence.

The Tier 1 server, developed earlier in the project, will be the main platform for this demonstration by providing the basic simulation functionalities. The Contractor must show how the Tier 1 server V1 can be used to increase the fidelity of current training systems and/or support an commercial training tool.

The simulation components used in the demonstration must be validated.

The definition of the scenario and vignettes, according to the intended use of the developed software, along with the preparation, execution and lessons learned, must be presented in a demonstration report by the Contractor.

The Contractor must provide technical software and hardware support, when and where required, during the demonstration and its general practice.

4.9.4 Task 4 (Tier 1 and 2 servers V2)

In task 4, in a final spiral development cycle, the Contractor must develop a second operational version (called V2) of the Tier 2 server based on the lessons learned from the second spiral (V1) and the technical specifications V2 supplied in the form DND 626 at the time of the task authorization. As shown in Figure 7, task 4 comprises the following subtasks: preliminary design, preliminary design review, detailed design, design review, development, integration and test, and product review.

The Tier 2 server V2 must include the full functionalities for consistently conducting EO engagements within a typical development environment (i.e., an environment composed of STEs with a good knowledge of the technical issues and with sufficient technical resources for detecting and correcting problems as they arise).

The Tier 1 server V2 will include the full functionalities for consistently conducting EO engagements within a typical operational environment (i.e., an environment

composed of SMEs, DND personnel, military or other, with a limited knowledge of the technical issues related to EO engagements).

The Contractor must implement and provide technical support on the client site for delivery and installation of the Tier 1 and 2 servers V2.

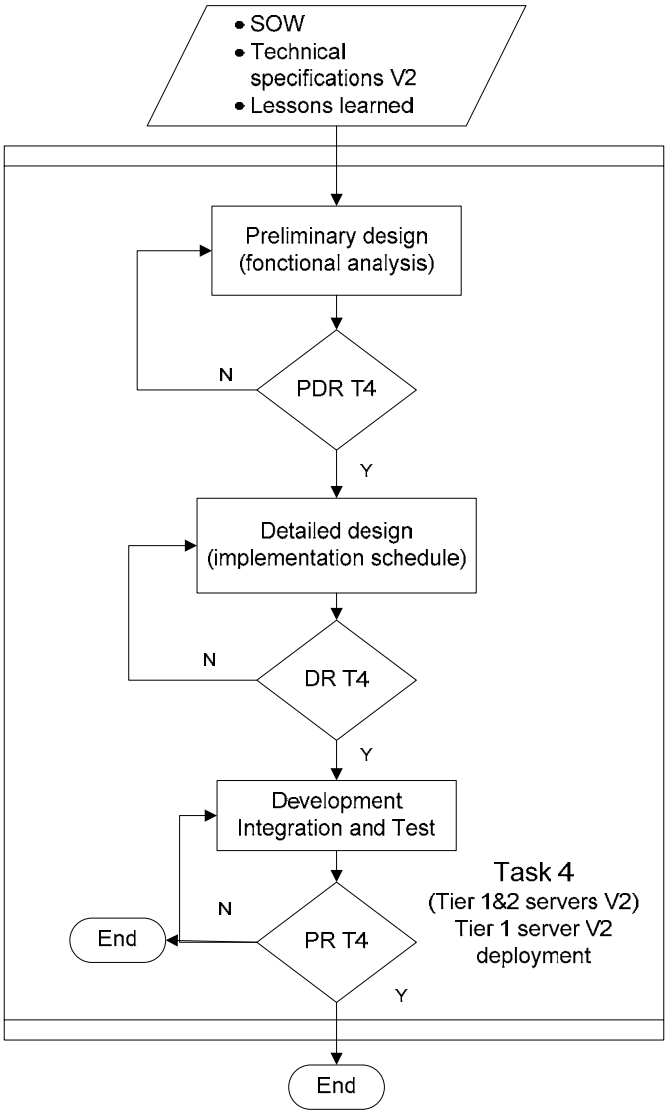

Figure 7 – Planned flow for task 4

4.9.5 Task 5 (Tier 3 servers V0 design)

In task 5, the Contractor must define the architecture and elaborate the implementation plan (detailed characteristics) of the Tier 3 servers based on the SOR and technical specifications V0 supplied in the form DND 626 at the time of the task authorization. As shown in Figure 8, task 5 comprises the following

subtasks: preliminary design, preliminary design review, detailed design, design review.

The architecture must specify, at a sufficient level of detail, the internal structure and interfaces, the relationships and interactions amongst the systems and the behaviour of the components. The detailed technical specifications must specify the objectives and technical approach selected for each of the main components of the servers and the structure of the implementation.

The Contractor must hold a VRAPP system integration review meeting at the end of this task.

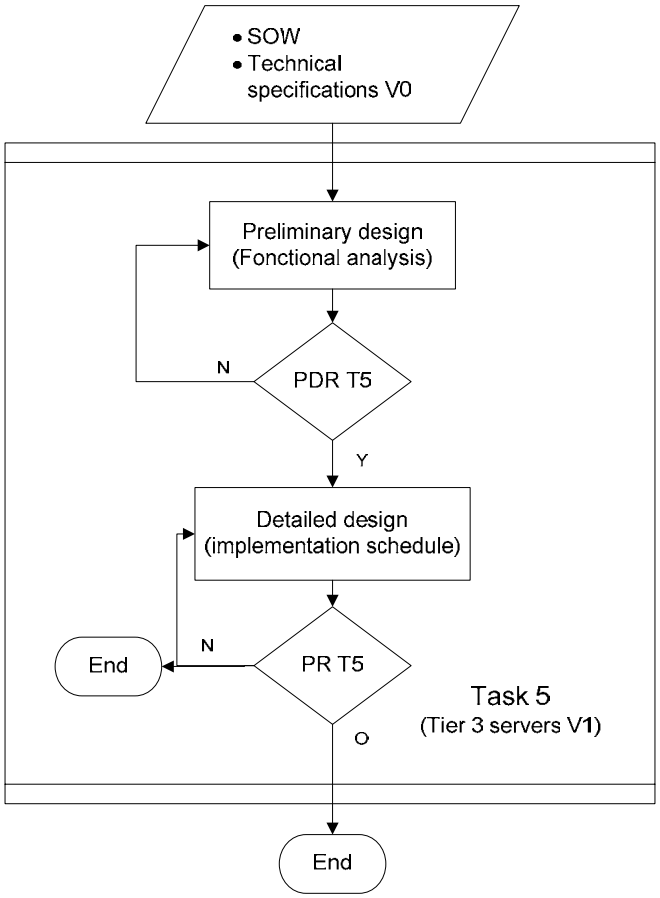

Figure 8 – Planned flow for task 5

4.9.6 Task 6 (Tier 3 servers V1 development)

In task 6, the Contractor must develop a first operational version (called V1) of the Tier 3 servers based on the architecture and implementation proposed during task 5 and the technical specifications supplied in the form DND 626 at the time of the task authorization. As shown in Figure 9, task 6 comprises the following subtasks: development, integration and test, and product review.

The Tier 3 servers V1 must include the basic functionalities for consistently conducting EO engagements with a high level of detail using HWIL simulators within a typical development environment (i.e., an environment composed of STEs with a very good knowledge of the technical issues and with sufficient technical resources for detecting and correcting the problems as they arise).

Therefore, the SEMAC, SAMSARA and MAWS simulators must be adapted and integrated with the VRAPP synthetic environment according to the characteristics defined in task 5 to meet the SOR and technical specifications V1.

The Contractor must hold a VRAPP system integration review meeting at the end of this task.

The Contractor must implement and provide technical support for delivery and installation of the Tier 3 servers V1.

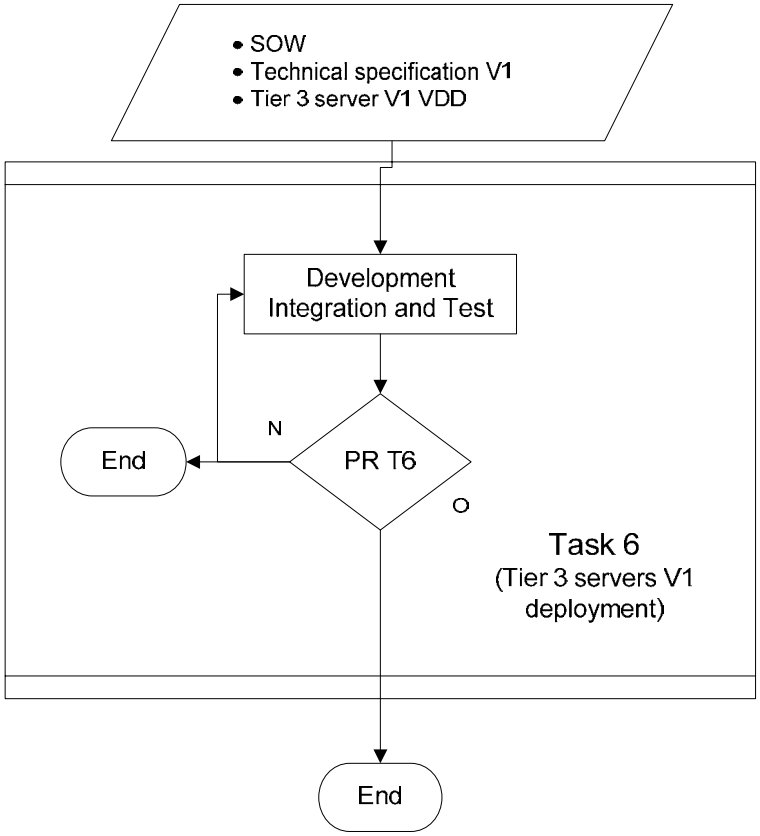

Figure 9 – Planned flow for task 6

4.9.7 Task 7 (Tier 3 servers V2)

In task 7, the Contractor must develop the second operational version (called V2) of the Tier 3 servers based on the SOR, the lessons learned from the Tier 3 servers V1 and the technical specifications V2 supplied in the form DND 626 at the time of the task authorization.

The Tier 3 servers V2 must include the full functionalities for consistently conducting EO engagements with a high level of detail using HWIL simulators within a typical development environment (i.e., an environment composed of STEs with a very good knowledge of the technical issues and with sufficient technical resources for detecting and correcting the problems as they arise).

As shown in Figure 10, task 7 comprises the following subtasks: preliminary design, preliminary design review, detailed design, design review, development, integration and test, and product review.

The Contractor must implement and provide technical support for delivery and installation of the Tier 3 servers V2.

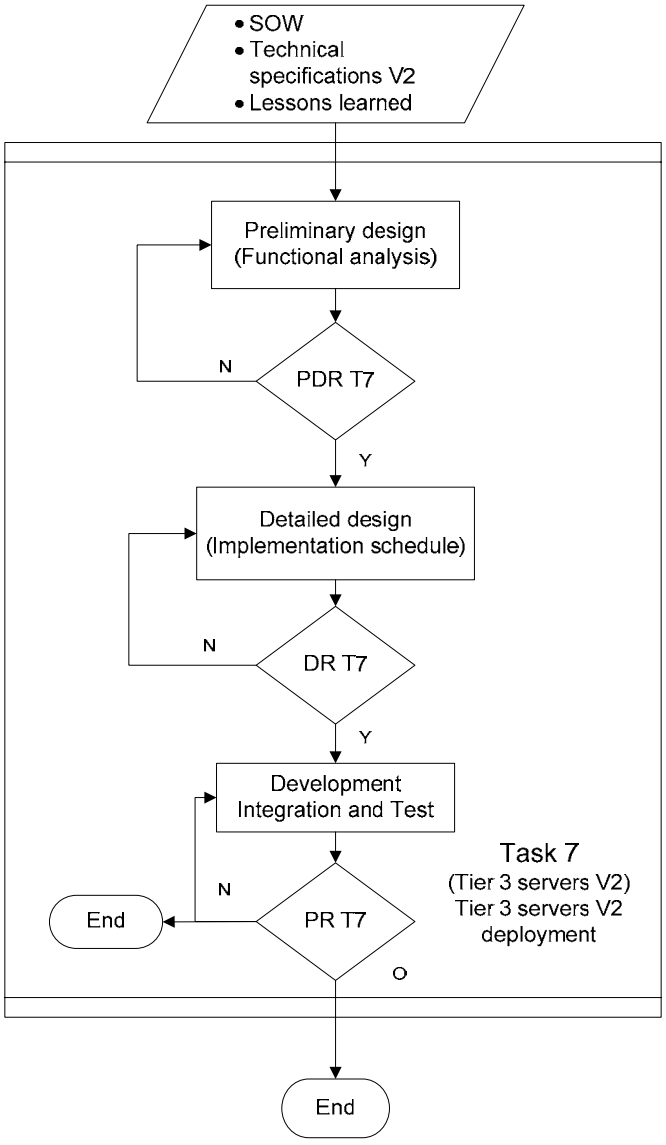

Figure 10 – Planned flow for task 7

4.9.8 Task 8 (demonstration)

In task 8, the Contractor must develop and present a demonstration. The objective of the demonstration is to show the applicability and benefits derived from employing VRAPP in providing reliable and credible data and tools to make informed procurement decisions. The demonstration must focus on the development and validation of countermeasures based on synthetic environments for EOW self-protection systems.

The scenario requirements for the demonstration and the performance measures will be specified and provided in the form DND 626 at the time of the task authorization. Planning of the demonstration will be managed by the VRAPP PM. The Contractor must create the scenario and vignettes of the demonstration, and prepare, execute and analyze the planned simulation. The requirements for the detailed scenario must be defined at the beginning of this task and presented to the VRAPP PM, who will validate it with the DND customer to ensure its pertinence.

This demonstration will specify how VRAPP Tier 1, 2 and 3 servers V2 can be used for the evaluation of various self-protection configurations and the combination of several countermeasures on an aerial platform. Several vignettes must be defined and involve different engagement conditions. The simulation components must be validated by conducting a series of laboratory and field experiments using hybrid simulators.

The definition of the scenario and vignettes, according to the intended use of the developed software, along with the preparation, execution and lessons learned, must be presented in a demonstration report.

The Contractor must provide technical software and hardware support, when and where required, during the demonstration and its general practice.

The final project review meeting (FPRM) will be held at the end of this demonstration.

5.0 DELIVERABLES

5.1 General

The deliverables will include all hardware and software components developed/modified during performance of this contract, including the associated demonstrations.

All newly developed VRAPP software or hardware must be documented, have version control and a software quality control program implemented, maintained and used in accordance with the approved SEMP. The software and hardware must be delivered according to the technical specifications provided.

Hardware and software documentation for non-developmental items must be submitted in their current version and format. Approved changes to non-developmental items must be described in the development documentation.

5.2 Types of Documents

This section lists the types of documents to be produced in the different tasks.

5.2.1 Project Management Plan (PMP) per Task
See CDRL 001 and DID PM-001.

5.2.2 Meeting Agenda (MA)
See CDRL 003 and DID PM-003.

5.2.3 Meeting Minutes (MM)
See CDRL 004 and DID PM-004.

5.2.4 Progress Reports (PR)
See CDRL 005 and DID PM-005.

5.2.5 Technical Reviews (TR)
See CDRL 006 and DID PM-006.

5.2.6 Demonstration Report (DR)
See CDRL 007 and DID PM-007

5.2.7 Final Report (FR)
See CDRL 008 and DID PM-008

5.2.8 System Engineering Management Plan (SEMP)
See CDRL 009 and DID SE-001.

5.2.9 Master Test Plan (MTP)
See CDRL 010 and DID SE-002.

5.2.10 VRAPP Design Description (VDD) Version
See CDRL 011 and DID SE-003.

5.2.11 VRAPP System Integration (VSI)
See CDRL 012 and DID SE-004.

5.2.12 VRAPP Product Specifications (VPS)
See CDRL 013 and DID SE-005.

5.2.13 Software User Manual (SUM)
See CDRL 014 and DID SE-006

5.3 Ad Hoc Reporting

The Contractor must report any element that may have a significant impact on the progress of the task to the VRAPP PM within 48 hours of its identification. Such problems must be submitted, verbally or in writing, to the VRAPP PM when any of the following situations arise:

- A significant engineering issue that may impact system performance or cost;
- A significant managerial issue that may impact cost, schedule or the technical quality of the deliverables; or
- A schedule slippage for a milestone or a deliverable is anticipated.

The problem must also be addressed in the next progress report or earlier if deemed necessary.

6.0 *MEETINGS*

The Contractor must organize and hold, in collaboration with the VRAPP management team, the following meetings:

- Progress Review Meeting (RM);
- Preliminary Design Review Meeting (PDRM);
- Design Review Meeting (DRM);
- Product Review Meeting (PRM);
- VRAPP System Integration Meeting (VSIM); and
- Final Project Review Meeting (FPRM).

The Contractor will chair the meetings listed above. The meetings will be held at DRDC Valcartier unless otherwise directed by the VRAPP PM. For these meetings, the VRAPP PM will be responsible for supplying the facilities and reserving the DRDC Valcartier conference room. If the meetings are held off DRDC Valcartier premises, the Contractor will ensure that the required data, personnel and facilities are available for the meetings. Other informal meetings, if necessary, will be scheduled and held as required and as mutually agreed by the Contractor and the VRAPP PM.

The Contractor will keep minutes of all formal meetings listed above. For informal meetings, minutes will be recorded if required, as mutually agreed by the

Contractor and the VRAPP PM. The meeting agenda and minutes will be prepared and submitted to the VRAPP PM for approval and then distributed.

6.1 Progress Review Meeting

Regular progress review meetings must be held throughout the duration of the contract. These meetings must involve the VRAPP DRDC Valcartier management team members and the Contractor's appropriate personnel. The RM aims at reviewing the previous month's effort from an administrative aspect: schedule and budget compliance, and an update of cost estimates for each ongoing task. The frequency of meetings will be at least once a month when there are one or more ongoing tasks. The RM will be brief (typically no longer than 60 minutes) and focus on providing a status of subtasks and recent issues without addressing detailed technical questions. The Contractor will be responsible for preparing the agenda and editing the RM minutes. These two documents (agenda and minutes) must be validated by the VRAPP PM. The minutes must be available before the next meeting.

6.2 Preliminary Design Review Meeting

This meeting will involve all VRAPP DRDC Valcartier technical and management team members and the Contractor's appropriate personnel. The PDRM aims at reviewing the results of the preliminary design subtask. The PDRM could last up to 1 day and will address: the expenditures incurred so far during the task, budget compliance, as well as all technical issues related to the design and performance of the Tier version of the ongoing task. The Contractor will be responsible for establishing the agenda and providing the minutes of the PDRM.

6.3 Design Review Meeting

This meeting will involve all the VRAPP DRDC Valcartier technical and management team members and the Contractor's appropriate personnel. The DRM aims at reviewing the design of the server version. The DRM could last up to 1 day and will address: the expenditures incurred so far during the task, budget compliance, as well as all technical issues related to the proposed design. The Contractor will be responsible for establishing the agenda and providing the minutes of the DRM.

6.4 Product Review Meeting

This meeting will involve all the VRAPP DRDC Valcartier technical and management team members and the Contractor's appropriate personnel. The PRM aims at reviewing the results from the various development iterations of the Tier 1, 2 and 3 servers. The PRM could last up to 1 day and will address: the expenditures incurred so far during the task, budget compliance, as well as any technical issues related to the design and performance of the various versions of the Tier 1, 2 and 3 servers. The Contractor will be responsible for establishing the agenda and preparing the minutes of the PRM.

6.5 VRAPP System Integration Review Meeting

These meetings will involve all the VRAPP DRDC Valcartier technical and management team members and the Contractor's appropriate personnel. The

VSIRM aims at assessing the development of VRAPP as a whole and will integrate the results and discussions from the Tier 1-2 and Tier 3 related tasks. The VSIRM could last up to 1 day and will address all technical issues related to the integration and performance of the various versions of the Tier 1, 2 and 3 servers. The Contractor will be responsible for establishing the agenda and providing the minutes of the VSIRM.

6.6 Final Project Review Meeting

This meeting will involve all the VRAPP DRDC Valcartier technical and management team members and the Contractor's appropriate personnel. The FPRM aims at reviewing the effort during the entire project from a management perspective. The FPRM could last up to 1 day and will provide an overview of all the subtasks and issues without addressing specific technical aspects. The Contractor will be responsible for establishing the agenda and providing the minutes of the FPRM.

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7.0 GOVERNMENT FURNISHED INFORMATION AND EQUIPMENT

7.1 Government Furnished Information (GFI)

The latest version of the documents listed below will be provided by the VRAPP PM to the Contractor to support the development and demonstration of the VRAPP SoS.

The documents will be provided in their language of publication only:

- VRAPP Statement of Requirements, Version 0, Defence R&D Canada – Valcartier, March 2010
- VRAPP Technical Specifications, V0, Defence R&D Canada – Valcartier, to be published.
- VRAPP System Engineering Process, Defence R&D Canada – Valcartier, December 2008.
- VRAPP Technical Documents Package, Defence R&D Canada – Valcartier, 17 July 2007.
- MIL-STD-1472F Design Criteria Standard: Human Engineering.
- MIL-HDBK-46855 Human Engineering Guidelines for Military Systems, Equipment and Facilities.
- KARMA Development Guideline 1,1 March 2010
- Verification & Validation Process V0.95, Defence R&D Canada – Valcartier, September 2008.
- RDDC Valcartier Facilities System Overview, R&D pour la défense Canada – Valcartier, Mars 2010.

7.2 Government Supplied Equipment (GSE)

The VRAPP integration and test work and demonstrations must be conducted at DRDC Valcartier since the major facilities (SEMAC, SAMSARA, MAWS) to be incorporated into the SoS are located there. The Contractor will therefore have access to the Optical Countermeasure and Guidance Laboratory where these facilities reside.

The SEMAC, SAMSARA and MAWS simulators will be accessible for the VRAPP integration, test and demonstrations. However, since these simulators are used on a regular basis for various projects, the Contractor must submit a usage calendar for these simulators to the VRAPP PM with its response to the task authorization on form DND 626. The VRAPP PM reserves the right to limit the Contractor's access to the simulators if the requests are deemed excessive or higher priority tasks arise.

The basis of the VRAPP synthetic environment is the DRDC developed KARMA process and framework. To complete the contract tasks, the Contractor will be granted access, by the VRAPP PM, to all software components and all documentation related to this process and framework. However, access to the KARMA process and framework can only be provided within the DRDC Valcartier site, which means that the software team must be working on DND premises at DRDC Valcartier for any development work. It should be noted that the KARMA software components and the documentation must be used exclusively for the work under this contract.

Similarly, the Contractor will be granted access, by the VRAPP PM, to all software components of the SEMAC, SAMSARA and MAWS simulators. However, as with KARMA, access to these components can only be provided within the DRDC Valcartier site, which means that the software team must be working on DND premises for any development work. These components must be used exclusively for the work under this contract.

VIRTUAL RANGE FOR ADVANCED PLATFORM PROTECTION (VRAPP)

Contract Data Requirements List (CDRL)

Version 3.9
March 2010

Defence R&D Canada – Valcartier

Table 1 – Contract Data Requirements List for W7701-7-3307/A

Item Number	DID ID Number	Title
001	PM-001	Project Management Plan (PMP) by Task
003	PM-003	Meeting Agenda (MA)
004	PM-004	Meeting Minutes (MM)
005	PM-005	Progress Report (PR)
006	PM-006	Technical Review (TR)
007	PM-007	Demonstration Report (DR)
008	PM-008	Final Report (FR)
009	SE-001	SE Management Plan (SEMP)
010	SE-002	Master Test Plan (MTP)
011	SE-003	VRAPP Design Description (VDD)
012	SE-004	VRAPP System Integration (VSI)
013	SE-005	VRAPP Product Specifications (VPS)
014	SE-006	Software User Manual (SUM)

Table 2 – Definition of abbreviations and acronyms

/R	With Revisions
CA	Contract Authority
CDRL	Contract Data Requirements List
DD	Destination-Destination
DPM	Deputy Project Manager
DR	Demonstration Report
DRDC	Defence Research and Development Canada
FR	Final Report
MA	Meeting Agenda
MM	Meeting Minutes
MTP	Master Test Plan
PM	Project Manager
PMP	Project Management Plan
PR	Progress Report
SA	Scientific Authority
SE	Systems Engineering
SEMP	SE Management Plan
SOW	Statement of Work
SUM	Software User Manual
TR	Technical Review
VDD	VRAPP Design Document
VPS	VRAPP Product Specifications
VSI	VRAPP System Integration

CONTRACT DATA REQUIREMENTS LIST (1 Data Item) DND Form 1413

A. SYSTEM / ITEM VRAPP				B. CONTRACT / RFP NUMBER W7701-7-3307					
C. SOW IDENTIFIER N/A		D. DATA CATEGORY Project Management		E. CONTRACTOR					
1. ITEM NUMBER 001		2. TITLE OR DESCRIPTION OF DATA Project Management Plan (PMP) by Task		3. SUBTITLE PMP					
4. AUTHORITY (Data Item Number) PM 001		5. CONTRACT REFERENCE SOW		6. REQUIRING OFFICE Project Manager					
7. INSPECTION DD	9. INPUT	10. FREQUENCY See Section 16	12. DATE OF 1st SUBMISSION See Section 16	14. DISTRIBUTION and ADDRESSEES					
				A. ADDRESS	B. COPIES				
8. APP CODE Approval		11. AS OF DATE See Section 16	13. DATE OF NEXT SUBMISSIONS See Section 16		DRAFT		FINAL		
					Hard	Soft	Hard	Soft	
16. REMARKS A detailed PMP must be delivered within two weeks after the assignment of each task. <u>Response Time</u> The VRAPP PM must provide comments on the PMP within three weeks of receipt. The Contractor must deliver the revised PMP within one week of the receipt of comments. <u>Revisions to Approved PMP</u> The Contractor must keep the PMP by task up to date. Major changes to the PMP must be discussed beforehand with the VRAPP PM and Contract Authority. Revised PMP must be delivered as needed. Response time remains as above.				VRAPP PM		1	1	1	
				CA					
PREPARED BY VRAPP DPM		APPROVED BY VRAPP PM							
DATE 21 December 2009		DATE 21 December 2009							
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE	15. TOTAL		1	1	1	

CONTRACT DATA REQUIREMENTS LIST (1 Data Item) DND Form 1413

A. SYSTEM / ITEM VRAPP				B. CONTRACT / RFP NUMBER W7701-7-3307					
C. SOW IDENTIFIER N/A		D. DATA CATEGORY Project Management		E. CONTRACTOR					
1. ITEM NUMBER 003		2. TITLE OR DESCRIPTION OF DATA Meeting Agenda		3. SUBTITLE MA					
4. AUTHORITY (Data Item Number) PM 003		5. CONTRACT REFERENCE SOW		6. REQUIRING OFFICE Project Manager					
7. INSPECTION DD	9. INPUT	10. FREQUENCY See Section 16	12. DATE OF 1st SUBMISSION See Section 16	14. DISTRIBUTION and ADDRESSEES					
				A. ADDRESS	B. COPIES				
8. APP CODE Approval		11. AS OF DATE See Section 16	13. DATE OF NEXT SUBMISSIONS See Section 16		DRAFT		FINAL		
					Hard	Soft	Hard	Soft	
16. REMARKS The Meeting Agenda (MA) must be submitted to the VRAPP PM no later than one week prior to each scheduled meeting. <u>Response time</u> The VRAPP PM will provide comments on the MA within four working days of receipt. The revised MA must be re-submitted no later than one day prior to the meeting.				VRAPP PM		1		1	
				CA					
PREPARED BY VRAPP DPM		APPROVED BY VRAPP PM							
DATE 21 December 2009		DATE 21 December 2009							
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE	15. TOTAL		1		1	

CONTRACT DATA REQUIREMENTS LIST (1 Data Item) DND Form 1413

A. SYSTEM / ITEM VRAPP				B. CONTRACT / RFP NUMBER W7701-7-3307					
C. SOW IDENTIFIER N/A		D. DATA CATEGORY Project Management		E. CONTRACTOR					
1. ITEM NUMBER 004		2. TITLE OR DESCRIPTION OF DATA Meeting Minutes		3. SUBTITLE MM					
4. AUTHORITY (Data Item Number) PM 004		5. CONTRACT REFERENCE SOW		6. REQUIRING OFFICE Project Manager					
7. INSPECTION DD	9. INPUT	10. FREQUENCY See Section 16	12. DATE OF 1st SUBMISSION See Section 16	14. DISTRIBUTION and ADDRESSEES					
				A. ADDRESS	B. COPIES				
8. APP CODE Approval		11. AS OF DATE See Section 16	13. DATE OF NEXT SUBMISSIONS See Section 16		DRAFT		FINAL		
					Hard	Soft	Hard	Soft	
16. REMARKS Draft minutes of meetings must be submitted to the VRAPP PM within one week after the meeting. <u>Response time</u> The VRAPP PM will provide comments on the minutes within one week of receipt. Copies of the final version of the minutes must be re-submitted to the VRAPP PM within one week after receipt of the comments.				VRAPP PM		1		1	
				CA					
PREPARED BY VRAPP DPM		APPROVED BY VRAPP PM							
DATE 21 December 2009		DATE 21 December 2009							
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES	19. ESTIMATED PRICE		15. TOTAL		1		1	

CONTRACT DATA REQUIREMENTS LIST (1 Data Item) DND Form 1413

A. SYSTEM / ITEM VRAPP				B. CONTRACT / RFP NUMBER W7701-7-3307					
C. SOW IDENTIFIER N/A		D. DATA CATEGORY Project Management		E. CONTRACTOR					
1. ITEM NUMBER 005		2. TITLE OR DESCRIPTION OF DATA Progress Reports		3. SUBTITLE PR					
4. AUTHORITY (Data Item Number) PM 005		5. CONTRACT REFERENCE SOW		6. REQUIRING OFFICE Project Manager					
7. INSPECTION DD	9. INPUT	10. FREQUENCY See Section	12. DATE OF 1st SUBMISSION See Section 16	14. DISTRIBUTION and ADDRESSEES					
				A. ADDRESS	B. COPIES				
8. APP CODE Approval		11. AS OF DATE See Section 16	13. DATE OF NEXT SUBMISSIONS See Section 16		DRAFT		FINAL		
					Hard	Soft	Hard	Soft	
16. REMARKS Progress reports must be submitted every two months. When a progress review meeting is scheduled, the progress report must be delivered two working days prior to the meeting.				VRAPP PM			1	1	
				CA				1	
PREPARED BY VRAPP DPM		APPROVED BY VRAPP PM							
DATE 21 December 2009		DATE 21 December 2009							
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE	15. TOTAL			1	2	

CONTRACT DATA REQUIREMENTS LIST (1Data Item) DND Form 1413

A. SYSTEM / ITEM VRAPP				B. CONTRACT / RFP NUMBER W7701-7-3307					
C. SOW IDENTIFIER N/A		D. DATA CATEGORY Project Management		E. CONTRACTOR					
1. ITEM NUMBER 006		2. TITLE OR DESCRIPTION OF DATA Technical Review		3. SUBTITLE TR					
4. AUTHORITY (Data Item Number) PM 006		5. CONTRACT REFERENCE SOW		6. REQUIRING OFFICE Project Manager					
7. INSPECTION DD	9. INPUT	10. FREQUENCY See Section 16	12. DATE OF 1st SUBMISSION See Section 16	14. DISTRIBUTION and ADDRESSEES					
				A. ADDRESS	B. COPIES				
8. APP CODE Approval		11. AS OF DATE See Section 16	13. DATE OF NEXT SUBMISSIONS See Section 16		DRAFT		FINAL		
					Hard	Soft	Hard	Soft	
16. REMARKS The Technical Review document must be delivered to the VRAPP PM one week prior to the preliminary design review meeting and two weeks prior to the design review and product review meeting. Revisions may be asked following the meetings.				VRAPP PM			1	1	
				CA					
PREPARED BY VRAPP DPM		APPROVED BY VRAPP PM							
DATE 21 December 2009		DATE 21 December 2009							
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES	19. ESTIMATED PRICE		15. TOTAL			1	1	

CONTRACT DATA REQUIREMENTS LIST (1 Data Item) DND Form 1413

A. SYSTEM / ITEM VRAPP				B. CONTRACT / RFP NUMBER W7701-7-3307					
C. SOW IDENTIFIER N/A		D. DATA CATEGORY Project Management		E. CONTRACTOR					
1. ITEM NUMBER 007		2. TITLE OR DESCRIPTION OF DATA Demonstration Report		3. SUBTITLE DR					
4. AUTHORITY (Data Item Number) PM 007		5. CONTRACT REFERENCE SOW		6. REQUIRING OFFICE Project Manager					
7. INSPECTION DD	9. INPUT	10. FREQUENCY See Section 16	12. DATE OF 1st SUBMISSION See Section 16	14. DISTRIBUTION and ADDRESSEES					
				A. ADDRESS	B. COPIES				
8. APP CODE Approval		11. AS OF DATE See Section 16	13. DATE OF NEXT SUBMISSIONS See Section 16		DRAFT		FINAL		
					Hard	Soft	Hard	Soft	
16. REMARKS A Draft Demonstration Report must be submitted to the VRAPP PM one month after the beginning of a demonstration task and no later than one month before a demonstration. An updated demonstration report must be submitted to the VRAPP PM one week after the demonstration. <u>Response time</u> The VRAPP PM must provide comments on the document within one week of receipt. The final version must be delivered two weeks after receipt of the comments from the VRAPP PM.				VRAPP PM		1	1	1	
				CA					
PREPARED BY VRAPP DPM		APPROVED BY VRAPP PM							
DATE 21 December 2009		DATE 21 December 2009							
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES	19. ESTIMATED PRICE		15. TOTAL		1	1	1	

CONTRACT DATA REQUIREMENTS LIST (1 Data Item) DND Form 1413

A. SYSTEM / ITEM VRAPP				B. CONTRACT / RFP NUMBER W7701-7-3307					
C. SOW IDENTIFIER N/A		D. DATA CATEGORY Project Management		E. CONTRACTOR					
1. ITEM NUMBER 008		2. TITLE OR DESCRIPTION OF DATA Final Report		3. SUBTITLE FR					
4. AUTHORITY (Data Item Number) PM 008		5. CONTRACT REFERENCE SOW		6. REQUIRING OFFICE Project Manager					
7. INSPECTION DD	9. INPUT	10. FREQUENCY See Section 16	12. DATE OF 1st SUBMISSION See Section 16	14. DISTRIBUTION and ADDRESSEES					
				A. ADDRESS	B. COPIES				
8. APP CODE Approval		11. AS OF DATE See Section 16	13. DATE OF NEXT SUBMISSIONS See Section 16		DRAFT		FINAL		
					Hard	Soft	Hard	Soft	
16. REMARKS The draft Final Report must be submitted to the VRAPP PM four weeks before the end of the contrat. <u>Response time</u> The VRAPP PM must provide comments on the document within two weeks of receipt. The final version must be delivered no later than two weeks after receipt of the comments from the VRAPP PM.				VRAPP PM		1	1	1	
				CA					
PREPARED BY VRAPP DPM		APPROVED BY VRAPP PM							
DATE 21 December 2009		DATE 21 December 2009							
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE	15. TOTAL		1	1	1	

CONTRACT DATA REQUIREMENTS LIST (1 Data Item) DND Form 1413

A. SYSTEM / ITEM VRAPP				B. CONTRACT / RFP NUMBER W7701-7-3307					
C. SOW IDENTIFIER N/A		D. DATA CATEGORY Systems Engineering		E. CONTRACTOR					
1. ITEM NUMBER 009		2. TITLE OR DESCRIPTION OF DATA SE Management Plan		3. SUBTITLE SEMP					
4. AUTHORITY (Data Item Number) SE 001		5. CONTRACT REFERENCE SOW		6. REQUIRING OFFICE Project Manager					
7. INSPECTION DD	9. INPUT	10. FREQUENCY See Section 16	12. DATE OF 1st SUBMISSION See Section 16	14. DISTRIBUTION and ADDRESSEES					
				A. ADDRESS	B. COPIES				
8. APP CODE Approval		11. AS OF DATE See Section 16	13. DATE OF NEXT SUBMISSIONS See Section 16		DRAFT		FINAL		
					Hard	Soft	Hard	Soft	
16. REMARKS The draft SE Management Plan must be delivered two weeks after assignment of the task. <u>Response time</u> The VRAPP PM must provide comments on the document within two weeks of receipt. The final version must be delivered no later than one week after receipt of comments from the VRAPP PM. Updates must be provided as required.				VRAPP PM		1	1	1	
				CA					
PREPARED BY VRAPP DPM		APPROVED BY VRAPP PM							
DATE 21 December 2009		DATE 21 December 2009							
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE	15. TOTAL		1	1	1	

CONTRACT DATA REQUIREMENTS LIST (1 Data Item) DND Form 1413

A. SYSTEM / ITEM VRAPP				B. CONTRACT / RFP NUMBER W7701-7-3307					
C. SOW IDENTIFIER N/A		D. DATA CATEGORY Systems Engineering		E. CONTRACTOR					
1. ITEM NUMBER 010		2. TITLE OR DESCRIPTION OF DATA Master Test Plan		3. SUBTITLE MTP					
4. AUTHORITY (Data Item Number) SE 002		5. CONTRACT REFERENCE SOW		6. REQUIRING OFFICE Project Manager					
7. INSPECTION DD	9. INPUT	10. FREQUENCY See Section 16	12. DATE OF 1st SUBMISSION See Section 16	14. DISTRIBUTION and ADDRESSEES					
				A. ADDRESS	B. COPIES				
8. APP CODE Approval		11. AS OF DATE See Section 16	13. DATE OF NEXT SUBMISSIONS See Section 16		DRAFT		FINAL		
					Hard	Soft	Hard	Soft	
16. REMARKS The Master Test Plan must be delivered and updated for each technical review. <u>Response time</u> The VRAPP PM must provide comments on the document within two weeks of receipt. The final version must be delivered no later than two weeks after receipt of comments from the VRAPP PM. Revisions must be provided as required.				VRAPP PM		1	1	1	
				CA					
PREPARED BY VRAPP DPM		APPROVED BY VRAPP PM							
DATE 21 December 2009		DATE 21 December 2009							
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE	15. TOTAL		1	1	1	

CONTRACT DATA REQUIREMENTS LIST (1 Data Item) DND Form 1413

A. SYSTEM / ITEM VRAPP				B. CONTRACT / RFP NUMBER W7701-7-3307					
C. SOW IDENTIFIER N/A		D. DATA CATEGORY Systems Engineering		E. CONTRACTOR					
1. ITEM NUMBER 011		2. TITLE OR DESCRIPTION OF DATA VRAPP Design Description		3. SUBTITLE VDD					
4. AUTHORITY (Data Item Number) SE 003		5. CONTRACT REFERENCE SOW		6. REQUIRING OFFICE Project Manager					
7. INSPECTION DD	9. INPUT	10. FREQUENCY See Section 16	12. DATE OF 1st SUBMISSION See Section 16	14. DISTRIBUTION and ADDRESSEES					
				A. ADDRESS	B. COPIES				
8. APP CODE Approval		11. AS OF DATE See Section 16	13. DATE OF NEXT SUBMISSIONS See Section 16		DRAFT		FINAL		
					Hard	Soft	Hard	Soft	
16. REMARKS A VRAPP Design Description must be prepared for all software and hardware development during the project. These documents must be maintained up-to-date for the whole duration of the project and the latest version of relevant elements for a given task must be submitted along with the technical review prior to technical review meetings. The format and the organization of these documents must be established following an agreement between the contractor and the VRAPP PM depending on the scope of the tasks. <u>Response time</u> Documents must be submitted at the same time as the technical reviews to which they are associated. The VRAPP PM must provide comments after the technical review meeting. A revised version must then be provided two weeks following receipt of comments from the VRAPP PM.				VRAPP PM		1	10	1	
				CA					
PREPARED BY VRAPP DPM		APPROVED BY VRAPP PM							
DATE 21 December 2009		DATE 21 December 2009							
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE	15. TOTAL		1	10	1	

CONTRACT DATA REQUIREMENTS LIST (1 Data Item) DND Form 1413

A. SYSTEM / ITEM VRAPP				B. CONTRACT / RFP NUMBER W7701-7-3307					
C. SOW IDENTIFIER N/A		D. DATA CATEGORY Systems Engineering		E. CONTRACTOR					
1. ITEM NUMBER 012		2. TITLE OR DESCRIPTION OF DATA VRAPP System Integration		3. SUBTITLE VSI					
4. AUTHORITY (Data Item Number) SE 004		5. CONTRACT REFERENCE SOW		6. REQUIRING OFFICE Project Manager					
7. INSPECTION DD	9. INPUT	10. FREQUENCY See Section 16	12. DATE OF 1st SUBMISSION See Section 16	14. DISTRIBUTION and ADDRESSEES					
				A. ADDRESS	B. COPIES				
8. APP CODE Approval		11. AS OF DATE See Section 16	13. DATE OF NEXT SUBMISSIONS See Section 16		DRAFT		FINAL		
					Hard	Soft	Hard	Soft	
16. REMARKS The draft of the VRAPP System Integration document must be delivered to the VRAPP PM two weeks prior to a VRAPP system integration review. <u>Response time</u> The VRAPP PM must provide comments on this document within two weeks of receipt. The final version of the document must be delivered no later than two weeks after the integration meeting.				VRAPP PM		1	1	1	
				CA					
PREPARED BY VRAPP DPM		APPROVED BY VRAPP PM							
DATE 21 December 2009		DATE 21 December 2009							
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE	15. TOTAL		1	1	1	

CONTRACT DATA REQUIREMENTS LIST (1 Data Item) DND Form 1413

A. SYSTEM / ITEM VRAPP				B. CONTRACT / RFP NUMBER W7701-7-3307					
C. SOW IDENTIFIER N/A		D. DATA CATEGORY Systems Engineering		E. CONTRACTOR					
1. ITEM NUMBER 013		2. TITLE OR DESCRIPTION OF DATA VRAPP Product Specifications		3. SUBTITLE VPS					
4. AUTHORITY (Data Item Number) SE 005		5. CONTRACT REFERENCE SOW		6. REQUIRING OFFICE Project Manager					
7. INSPECTION DD	9. INPUT	10. FREQUENCY See Section 16	12. DATE OF 1st SUBMISSION See Section 16	14. DISTRIBUTION and ADDRESSEES					
				A. ADDRESS	B. COPIES				
8. APP CODE Approval		11. AS OF DATE See Section 16	13. DATE OF NEXT SUBMISSIONS See Section 16		DRAFT		FINAL		
					Hard	Soft	Hard	Soft	
16. REMARKS The draft of the VRAPP Product Specifications document must be delivered to the VRAPP PM two weeks prior to a product review meeting. <u>Response time</u> The VRAPP PM must provide comments on this document within two weeks of receipt. The final version of the document must be delivered no later than two weeks after receipt of the comments.				VRAPP PM		1	10	1	
				CA					
PREPARED BY VRAPP DPM		APPROVED BY VRAPP PM							
DATE 21 December 2009		DATE 21 December 2009							
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE	15. TOTAL		1	10	1	

CONTRACT DATA REQUIREMENTS LIST (1 Data Item) DND Form 1413

A. SYSTEM / ITEM VRAPP				B. CONTRACT / RFP NUMBER W7701-7-3307					
C. SOW IDENTIFIER N/A		D. DATA CATEGORY Systems Engineering		E. CONTRACTOR					
1. ITEM NUMBER 014		2. TITLE OR DESCRIPTION OF DATA Software User Manual		3. SUBTITLE SUM					
4. AUTHORITY (Data Item Number) SE 006		5. CONTRACT REFERENCE SOW		6. REQUIRING OFFICE Project Manager					
7. INSPECTION DD	9. INPUT	10. FREQUENCY See Section 16	12. DATE OF 1st SUBMISSION See Section 16	14. DISTRIBUTION and ADDRESSEES					
				A. ADDRESS	B. COPIES				
8. APP CODE Approval		11. AS OF DATE See Section 16	13. DATE OF NEXT SUBMISSIONS See Section 16		DRAFT		FINAL		
					Hard	Soft	Hard	Soft	
16. REMARKS The document draft must be delivered to the VRAPP PM four weeks before the end of the tasks which include delivery of software modules. <u>Response time</u> The VRAPP PM must provide comments on the document within two weeks of receipt. The final version of the document must be delivered no later than two weeks after receipt of the comments.				VRAPP PM		1	10	1	
				CA					
PREPARED BY VRAPP DPM		APPROVED BY VRAPP PM							
DATE 21 December 2009		DATE 21 December 2009							
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE	15. TOTAL		1	10	1	

VIRTUAL RANGE FOR ADVANCED PLATFORM PROTECTION (VRAPP)

Data Item Description (DID)

Version 3.9
March 2010

Defence R&D Canada – Valcartier

DATA ITEM DESCRIPTION

DND Form 1409

1. TITLE	2. IDENTIFICATION NUMBER
Project Management Plan (PMP) by task	PM-001

3. DESCRIPTION

The Project Management Plan by task of the contractor defines the roles, responsibilities, procedures and processes comprising project management so as to ensure that the task is completed on time, within budget and with the highest level of quality. It describes the contractor's plan for integrating all planning and management activities for the assigned task within the VRAPP project, including activities related to coordination between the contractor and Government.

4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. GIDEP APPLICABLE
	VRAPP Project Manager	

7. APPLICATION / INTERRELATIONSHIP

7.1 This DID contains PMP format, content and preparation instructions.

7.2 CDRL 001 specifies the procedure for submitting PMPs.

8. ORIGINATOR	9. APPLICABLE FORMS
VRAPP PM	

10. PREPARATION INSTRUCTIONS

10.1 General instructions. The PMP must be prepared in a format suggested by the contractor and approved by the VRAPP PM.

10.2 Content requirements. The contractor must prepare a detailed PMP that combines the management, administrative procedures and organizational structure to be used in managing the contractor's and subcontractor's work for the task throughout the implementation process. The following issues must be addressed:

a. introduction, purpose and scope;

b. overview and context of VRAPP project;

c. project management approach and procedures;

d. project management organizational agreements (including organization chart illustrating relationships);

e. determination, along with the contractor and major subcontractors, of the responsibilities of the key positions;

f. detailed resumés for proposed key personnel;

g. definition and planning of the work;

h. risk identification and management;

i. management and control data and information;

j. production management and subcontractor management; and

k. cost and scheduling control and reporting systems.

DATA ITEM DESCRIPTION

DND Form 1409

1. TITLE	2. IDENTIFICATION NUMBER
Meeting Agenda (MA)	PM-003

3. DESCRIPTION

The Meeting Agenda provides all attendees with the meeting structure and schedule, as well as the preparatory work and decisions required from these meetings or reviews.

4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. GIDEP APPLICABLE
	VRAPP Project Manager	

7. APPLICATION / INTERRELATIONSHIP

7.1 This DID contains MA format, content and preparation instructions.

7.2 This DID must be used in conjunction with the DID PM-004 (Meeting Minutes).

7.3 CRDL 003 specifies the procedure for submitting MAs.

8. ORIGINATOR	9. APPLICABLE FORMS
VRAPP PM	

10. PREPARATION INSTRUCTIONS

10.1 General instructions. A meeting agenda must be prepared and submitted prior to each scheduled meeting. The agenda may be prepared using the contractor's format. The agenda must contain relevant information regarding the next meeting stating the meeting's purpose and objectives. In addition, prior to the meeting, the meeting agenda must be updated to include new items/changes proposed by attendees. Unless otherwise specified, all technical data that must be reviewed during a meeting must be submitted with the meeting agenda.

10.2 Content requirements. The following items must be addressed:

a. meeting scope, purpose and objectives;

b. time, date and expected duration of the meeting;

c. suggested Government attendees;

d. contractor attendees;

e. items to be discussed at the meeting;

f. list of decisions required from the meeting; and

g. new subject items to be introduced by the contractor and/or the VRAPP PM.

DATA ITEM DESCRIPTION

DND Form 1409

1. TITLE	2. IDENTIFICATION NUMBER
Meeting Minutes (MM)	PM-004

3. DESCRIPTION

Minutes of all meetings taking place during the course of the contract must be taken to record the business of the meeting and provide a formal record of the decisions made as a result of the meeting.

4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. GIDEP APPLICABLE
	VRAPP Project Manager	

7. APPLICATION / INTERRELATIONSHIP

7.1 This DID contains MM format, content and preparation instructions.

7.2 CDRL 004 specifies the procedure for submitting MMs.

8. ORIGINATOR	9. APPLICABLE FORMS
VRAPP PM	

10. PREPARATION INSTRUCTIONS

10.1 General instructions. Meeting Minutes may be prepared in the contractor's format, within the constraints imposed herein. These minutes must be prepared for each meeting and must identify topics discussed, action items and decision taken. Action items identified must be tabled at the next meeting and their status identified.

10.2 Content requirements.

Meeting Minutes must include the following, as a minimum (unless otherwise specified):

a. attendance record;
b. significant items discussed;
c. corrections to previous minutes;
d. schedule updates;
e. individual tasks and action item status;
f. subcontractor status;
g. contractor or VRAPP PM replies and submitted reports; and
h. record of required actions and decisions.

DATA ITEM DESCRIPTION

DND Form 1409

1. TITLE	2. IDENTIFICATION NUMBER
Progress Report (PR)	PM-005

3. DESCRIPTION

This report details the progress of the contractor's work as required by the contract and the Statement of Work (SOW). It provides the status of the work achieved versus that planned during the period covered by this report, and highlights problem areas and the actions being taken to provide corrective action.

4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. GIDEP APPLICABLE
	VRAPP Project Manager	

7. APPLICATION / INTERRELATION

7.1 This DID contains PR format, content and preparation instructions.

7.2 CDRL 005 specifies the procedure for submitting PRs.

8. ORIGINATOR	9. APPLICABLE FORMS
VRAPP PM	

10. PREPARATION INSTRUCTIONS

10.1 General instructions. The Progress Report must document in detail the contractor's progress in relation to the approved plan. It must provide an overview of achievements in all work areas, and particularly the status of all contract deliverable items. The report must provide a concise status of problem areas and the actions being taken to correct problems. The PR may be prepared using the contractor's format.

10.2 Content requirements.

The report must include as a minimum:

a. description of progress as measured against the project schedule;

b. presentation of any real or potential problems that could cause delays for authorized tasks only;

c. estimated completion date for each phase;

d. summary of future plans, recommendations and proposals for authorized tasks only, both for the next reporting period and long term planning;

e. status of action items, noting which action items have been completed, are on-going or are replaced, as appropriate. The action item list will show the person responsible for completing the action with due date and closing date;

f. whether the task meets budget, and if not, explaining why;

g. whether the task requires help or advice from Canada, and if so, explaining why; and

h. an illustration of project progress for task planning using a Gantt chart.

DATA ITEM DESCRIPTION

DND Form 1409

1. TITLE	2. IDENTIFICATION NUMBER
Technical Review (TR)	PM-006

3. DESCRIPTION

A Technical Review (TR) is a multi-disciplined product and process assessment to ensure that the system under review:

1 – can proceed to the next phase, for the preliminary design review (PDR) and the design review (DR), and can meet the stated performance requirements within cost, on schedule, according to risk and other system constraints; or

2 – meets the stated requirements and technical specifications for the product review (PR).

4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. GIDEP APPLICABLE
	VRAPP Project Manager	

7. APPLICATION / INTERRELATION

7.1 This DID contains TR format, content and preparation instructions.

7.2 CDRL 006 specifies the procedure for submitting TRs.

8. ORIGINATOR	9. APPLICABLE FORMS
VRAPP PM	

10. PREPARATION INSTRUCTIONS

10.1 General instructions.

The Technical Reviews must be prepared in a format suggested by the contractor and approved by the VRAPP PM.

10.2 Content requirements.

1. Scope

This paragraph must contain a full identification of the system(s) or item(s) to which this document applies, including, as applicable, identification number, title, abbreviations, version number and release number. It must also state the purpose and general nature of the system to which the document applies.

2. Referenced documents
This section must list the number, title, revision, and date of all documents referenced in the technical review. This section must also identify the source for all documents not available through normal Government sources.

3. Review elements

Sections 3.1 to 3.3 distinguish the content for the three types of technical reviews while section 3.4 and after apply to all three. Section 3 should include, if applicable, but is not limited to:

- a detailed balance of task expenditures, a cost estimate for the rest of the task and an updated schedule for the task in progress;
- the latest version of the UML static and dynamic diagrams (use cases, class diagrams, etc.) of the software components produced during the task;
- the latest version of the technical documentation, including technical drawings of

hardware and software components produced throughout the task;

- the latest version of the documentation explaining usage and maintenance of the hardware and software components produced/integrated during the task;
- the latest version of the schematics and assembly instructions of any hardware component produced or integrated during the project; and
- the update of VRAPP technical specifications to include the lessons learned; and
- An updated traceability table focusing on the relationship between VRAPP technical specifications and the associated design and implementation. This table must include the specification statement, an indicator for the level of completion, a brief description of the method of achievement, a reference to the corresponding design/implementation documents and, as required, a note on the problems, limitations or compromises.

3.1 For preliminary design purposes

This section must demonstrate that:

- the functional architecture constructed during the preliminary design satisfies identified stakeholder needs, SOR and technical specifications;
- all allocated functions are traceable to the requirements;
- all requirements are satisfied by the allocated baseline; and that
- all planned development aspects reflect the projected demonstration.

The section must include supporting data or refer to documents available to the VRAPP PM. The section must also include the rationale for any proposed change to the requirements or technical specifications.

3.2 For detailed design purposes

This section must demonstrate that:

- the physical design architecture built during the detailed design activity satisfies the validated functional architecture;
- it correctly and completely implements all system requirements, and whether the traceability of the final system requirements to the final production system is maintained; and that
- development reflects testing or the projected demonstration.

The section must include supporting data or refer to documents available to the VRAPP PM.

The section must also demonstrate that the subsystems, systems or system of systems (SoS) under review are ready for formal testing. The contractor must verify the traceability of planned tests to program requirements and determine the completeness of test procedures and their compliance with the master test plan.

3.3 Product review

This section must demonstrate that:

- the final product constructed during the integration and testing phase satisfies the physical architecture;
- it correctly and completely implements all system requirements, and whether the traceability of final system requirements to the final production system is maintained;

- all components needed for the demonstration or testing have been developed; and that
- results are recorded in the test plan.

3.4 Supporting data

The section must include supporting data or refer to documents available to DRDC Valcartier personnel. The section must also include the rationale for any proposed change to the requirements or technical specifications.

3.5 Risk status

This section must present the risks associated with continuing development and demonstrate that the contractor has accomplished adequate planning without incurring unacceptable risks that could negatively impact schedule, performance, cost, or other established criteria. Risk mitigation and trade-off analyses must be done when major constraints are identified that could affect the conduct of the next task.

3.6 Project management plan and SE management plan

This section presents, if any, the rationale for necessary revisions to the project management plan and the SE management plan.

3.7 Recommendation to proceed to the next activity

This section must demonstrate that the design is mature enough to proceed to the next activity and identify the resources needed. This section must also present the lessons learned during the task to facilitate the next task or further development.

A. Appendixes

Appendixes may be used to provide information published separately for convenience in document maintenance (e.g., charts, classified data, etc.). As applicable, each appendix must be referenced in the main body of the document where the data would normally have been provided. Appendixes may be bound as separate documents for ease in handling.

DATA ITEM DESCRIPTION

DND Form 1409

1. TITLE	2. IDENTIFICATION NUMBER
Demonstration Report (DR)	PM-007

3. DESCRIPTION

The Demonstration Report is intended for the analysis, evaluation and approval of the VRAPP performance in compliance with the vignette, scenario and stakeholders' needs.

4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. GIDEP APPLICABLE
	VRAPP Project Manager	

7. APPLICATION / INTERRELATION

7.1 This DID contains DR format, content and preparation instructions.

7.2 CRDL 007 specifies the procedure for submitting DRs.

8. ORIGINATOR	9. APPLICABLE FORMS
VRAPP PM	

10. PREPARATION INSTRUCTIONS

10.1 General instructions. The Demonstration Report must be prepared in a format suggested by the contractor and approved by the VRAPP PM.

10.2 Content requirements.

1. Scope

This paragraph must contain a full identification of the system(s) or item(s) to which this document applies, including, as applicable, the identification number, title, abbreviations, version number and release number. It must briefly state the purpose of the demonstration and describe the general nature of the systems involved.

2. Referenced documents
This section must list the number, title, revision, and date of all documents referenced in the demonstration report. This section must also identify the source for all documents not available through normal Government sources.

3. Demonstration elements

a) Scenario and vignette

This section of the report must document the scenario and vignette of the demonstration and detail the entities taking place in it. It must highlight the capabilities needed from the entities to satisfy stakeholder requirements.

b) Software and hardware

This section must describe the software and hardware components used for the demonstration, review the specifications of these components with respect to demonstration needs and explain the interactions between them during the demonstration.

c) Demonstration conduct

This section must describe the contractor's vision concerning the demonstration conduct, players involved and resources needed.

e) Lessons learned

This section must conclude if the demonstration was successful, document comments from DRDC personnel, clients involved and contractor staff.

A. Appendixes

Appendixes may be used to provide information published separately for convenience in document maintenance (e.g., charts, classified data, etc.). As applicable, each appendix must be referenced in the main body of the document where the data would normally have been provided. Appendixes may be bound as separate documents for ease in handling.

DATA ITEM DESCRIPTION

DND Form 1409

1. TITLE	2. IDENTIFICATION NUMBER
Final Report (FR)	PM-008

3. DESCRIPTION

The Final Report must summarize the work done during the VRAPP project by the contractor. It must contain recommendations for future development and employment of the VRAPP capability. It should complement the VRAPP Product Specifications documents.

4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. GIDEP APPLICABLE
	VRAPP Project Manager	

7. APPLICATION / INTERRELATION

7.1 This DID contains FR format, content and preparation instructions.

7.2 CDRL 008 specifies the procedure for submitting FRs.

8. ORIGINATOR	9. APPLICABLE FORMS
VRAPP PM	

10. PREPARATION INSTRUCTIONS

10.1 General instructions. The Final Report must be prepared in a format suggested by the contractor and approved by the VRAPP PM.

10.2 Content requirements.

The report must focus on the functionalities provided by VRAPP, their usability for the intended application and improvements that would be required to make the VRAPP SoS fully operational for the Canadian Forces.

The following items must be addressed (but not limited to):

a. introduction, objectives and background;

b. project management, structure and organization;

c. financial and timing issues, progress achieved against project milestones;

d. methodology;

e. solution proposed;

f. global results, metrics, Measure of Effectiveness (MOE) and Measure of Performance (MOP), observations and reflections;

g. scalability and system limitations;

h. improvement opportunities;

i. lessons learned; and

j. conclusions and recommendations.

DATA ITEM DESCRIPTION

DND Form 1409

1. TITLE	2. IDENTIFICATION NUMBER
System Engineering Management Plan (SEMP)	SE-001

3. DESCRIPTION

The SEMP must describe the contractor's proposed efforts for planning, controlling and conducting a fully integrated effort.

4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. GIDEP APPLICABLE
	VRAPP Project Manager	

7. APPLICATION / INTERRELATION

7.1 This DID contains SEMP format, content and preparation instructions.

7.2 CDRL 009 specifies the procedure for submitting SEMPs.

8. ORIGINATOR	9. APPLICABLE FORMS
VRAPP PM	

10. PREPARATION INSTRUCTIONS

10.1 General instructions. The SEMP must be prepared in a format suggested by the contractor and approved by the VRAPP PM.

10.2 Content requirements.

1. Scope

This section must include a brief description of the purpose of the system to which the engineering plan applies, a summary of the engineering plan content and how its configuration will be managed.

2. Referenced documents

This section must list the number, title, revision, and date of all documents referenced in the management plan. This section must also identify the source for all documents not available through normal Government sources.

3. System engineering process application

This section must describe the contractor's SEP activities as they are to be applied to the total engineering effort of the project, the organizational responsibilities and authority for engineering systems. Descriptions include the steps that must be accomplished to satisfy important elements and the detailed task schedule. Descriptions must also include narratives, supplemented as necessary by graphical presentations, detailed plans, processes, and procedures for the application of the SEP.

3.1 Systems engineering process planning

This section presents an overview of the project's technical objectives, deliverables and results for the process, needed inputs, and work breakdown of structure development. Consideration should be given to the following topics:

a. major deliverables and results;
b. process inputs;
c. technical objectives;
d. work breakdown structure for the task;
e. training;
f. standards and procedures;
g. resource allocation for the task;
h. constraints; and
i. work authorization for the task.

3.2 Requirements analysis

This section must document the approach and methods for analysis of system product uses; operation environments; human limitations and capabilities; performance expectations; design constraints and identification of needs, requirements, and constraints related to life cycle processes. It must document the approach and methods for analysis of hardware, software, and human systems engineering. It must also document the approach and methods to be used to define the functional and performance requirements.

3.3 Requirements validation

This section must include the approach and methods to validate that the requirements established from requirements analysis is based on client expectations, company and contract constraints, and external constraints.

3.4 Functional analysis

This section must include a description of the approach and methods planned to determine lower-level functions, to allocate performance and other limiting requirements to lower-level functions, to define functional interfaces, and to define the functional architecture.

3.5 Functional verification

This section must include a description of the approach and methods planned to verify that the functional architecture established from functional analysis validates baseline requirements.

3.6 Synthesis

This section must include a description of the approach and methods to transform the functional architecture into physical architecture to define alternative system concepts and physical interfaces, and to select preferred product and process solutions. This section must also describe how requirements are converted into detailed design specifications.

3.7 Design verification

This section must include a description of the approach and methods planned to verify that the physical architecture, established during synthesis, is both upward and downward traceable to the functional architecture and satisfies the requirements of the validated requirements baseline, and supports baseline of configurations and specifications.

3.8 Systems analysis

This section must include an overview of the approach and methods planned to arrive at a balanced set of requirements and a balanced functional and physical architecture to satisfy those requirements and control the level of development dependent outputs of the SEP. Systems analysis provides an overview of the specific systems analysis efforts needed

(including hardware, software, and human allocation). It must also include methods and tools for trade-off analyses, systems and cost-effectiveness analyses, and risk management.

3.9 Control

This section must provide an overview of plans for:

a. design;
b. interface management;
c. data management;
d. master schedule;
e. technical performance measurements;
f. technical reviews; and
g. requirements traceability.

4. Integration of the system engineering effort

This section must describe how the various inputs into the systems engineering effort will be incorporated and how integrated product teaming will be implemented to regroup appropriate disciplines into a coordinated systems engineering effort that meets cost, schedule, and performance objectives. This section must also provide a brief description of the approach and methods planned to ensure the integration of the engineering specialities to meet project objectives.

5. Additional systems engineering activities

This section must contain a brief description of other areas not specifically covered in Sections 3 through 5, but essential for planning a total systems engineering effort. It must include a brief description of additional engineering activities essential to successfully engineering a system solution.

A. Appendixes

Appendixes may be used to provide information published separately for convenience in document maintenance (e.g., charts, classified data, etc.). As applicable, each appendix must be referenced in the main body of the document where the data would normally have been provided. Appendixes may be bound as separate documents for ease in handling.

DATA ITEM DESCRIPTION

DND Form 1409

1. TITLE	2. IDENTIFICATION NUMBER
Master Test Plan (MTP)	SE-002

3. DESCRIPTION

This document details the plan, procedures and resources by which VRAPP subsystems and VRAPP SoS will be tested as a whole, and verifies compliance against the requirements specified in the VRAPP SOR.

Tests include: unit tests (at the component level), functional tests at system tiers (hardware and software), MSI/EMC tests and system performance tests (hardware and software).

4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. GIDEP APPLICABLE
	VRAPP Project Manager	

7. APPLICATION / INTERRELATION

7.1 This DID contains MTP format, content and preparation instructions.

7.2 CDRL 010 specifies the procedure for submitting MTPs.

8. ORIGINATOR	9. APPLICABLE FORMS
VRAPP PM	

10.PREPARATION INSTRUCTIONS

10.1 General instructions. The Master Test Plan must be prepared in a format suggested by the contractor and approved by the VRAPP PM.

10.2 Content requirements. For each item under test, the MTP must include, as a minimum, the information listed below.

a. item description and test objectives;

b. flow diagram of the verification plan;

c. test support requirements;

d. data processing requirements;

e. requirement(s) addressed by the test;

f. test procedures and results; and

g. identification and assignment of responsibilities for each stakeholder (DRDC Valcartier and the contractor).

DATA ITEM DESCRIPTION

DND Form 1409

1.TITLE	2. IDENTIFICATION NUMBER
VRAPP Design Description (VDD)	SE-003

3.DESCRIPTION

VDD documents describe the design of the VRAPP components. They should include the decisions, architecture and details needed to implement/understand each component. They should also include the physical architecture, and hardware, software and interface specifications.

4.APPROVAL DATE	5.OFFICE OF PRIMARY INTEREST	6.GIDEP APPLICABLE
	VRAPP Project Manager	

7.APPLICATION / INTERRELATIONSHIP

7.1 This DID contains VDD format, content and preparation instructions.
7.2 CDRL 011 specifies the procedure for submitting VDDs.

8.ORIGINATOR	9.APPLICABLE FORMS
VRAPP PM	

10.PREPARATION INSTRUCTIONS

10.1 General instructions. The VDD document(s) must be prepared in a format suggested by the contractor and approved by the VRAPP PM.

10.2 Content requirements.

1. Scope

This paragraph must contain a full identification of the system(s) and item(s) to which this document applies, including, as applicable, the identification number, title, abbreviations, version number, and release number.

2. Referenced documents

This section must list the number, title, revision, and date of all documents referenced in the design description document. This section must also identify the source for all documents not available through normal Government sources.

3. Design decisions

This section should present the design at the component level. It should include design considerations regarding behavior and operation that may include implementation details. If some of these considerations are presented in the requirement list where the specific design components are included, then the contractor must also make reference to it. Design decisions identified as critical (for example, regarding security) must be handled separately, in a specific section of the document. If some design considerations depend on a specific system usage mode, this dependence must be clearly identified. Design conventions required for the understanding of the design must be presented or referenced. This section must provide the decision elements affecting the selection, design and technical specifications of components.

4. Design

This section must describe the development of software and/or hardware components and should include, but is not limited to:

- UML static and dynamic diagrams of the software components produced throughout the project;
- the latest version of the schematics, technical drawings and assembly instructions of any hardware component produced or integrated during the project;
- interface characteristics among the software/hardware units and their interfaces with external entities such as other systems and users; and
- other graphical representation or efficient data representation methods to properly document design components.

A. Appendixes

Appendixes may be used to provide information published separately (e.g., charts, classified data, etc.). As applicable, each appendix must be referenced in the main body of the document where the data would normally have been provided. Appendixes may be bound as separate documents for ease in handling.

DATA ITEM DESCRIPTION		DND Form 1409
1.TITLE VRAPP System Integration (VSI)		2.IDENTIFICATION NUMBER SE-004
3.DESCRIPTION The VSI document describes the global design of the VRAPP system. It includes the latest VRAPP design information and precedes the two major spiral cycles, that is, the V1 and V2 servers. It integrates development of all Tier Servers to asses system-wide development.		
4.APPROVAL DATE	5.OFFICE OF PRIMARY INTEREST VRAPP Project Manager	6.GIDEP APPLICABLE
7.APPLICATION / INTERRELATIONSHIP 7.1 This DID contains VSI format, content and preparation instructions. 7.2 CDRL 012 specifies the procedure for submitting VSIs.		
8.ORIGINATOR VRAPP PM	9.APPLICABLE FORMS	

10.PREPARATION INSTRUCTIONS

10.1 General instructions. This document must be prepared in a format suggested by the contractor and approved by the VRAPP PM.

10.2 Content requirements. The VSI document must complement the various technical reviews by addressing the global design of VRAPP as a SoS, discussing how the solutions developed in the Tier 1, 2 and 3 Servers can be integrated, identify risks and plan the next tasks accordingly.

1. Scope

This paragraph must briefly state the purpose of the system to which the document applies. It must describe the general nature of the system; summarize the development history, use and maintenance; identify the project manager, users, developers and support entities; and identify current and expected user sites.

2. Referenced documents

This section must list the number, title, revision, and date of all documents referenced in the system integration document. This section must also identify the source for all documents not available through normal Government sources.

3. System-wide design decisions

This section should present system-wide design decisions and include design considerations regarding behavior and operation (from the viewpoint of the user and requirements, but without including implementation details). If some of these considerations are presented in the requirements list where specific component design decisions are included, then the contractor must also make reference to it. Design decisions identified as critical (for example regarding security) must be handled separately, in a specific section of the document. If some design considerations depend on a specific system user mode, this dependence must be clearly

indicated. Design conventions necessary for the understanding of the design must be presented or referenced. Examples of system-wide design decisions are:

- design decisions regarding system inputs and outputs, including interfaces with users or subsystems;
- system behavior according to initial conditions, performance considerations, error management or limiting conditions, etc.;
- design and construction choices for hardware or software components;
- selected approach to provide required flexibility, interoperability, availability or accessibility; and
- risk analysis and mitigation.

4. System architectural design

This section must be divided in two as indicated below. It describes the system architectural design. If the design is specific to an operating mode, the latter must be clearly indicated and information being found in more than one section must be referenced once. Design conventions needed to understand the design must be presented or referenced.

4.1 System components

This paragraph must:

a. identify all components of the system;

b. show the static relationship(s) of the components;

c. state the purpose and role of each component and identify the system requirements and system-wide design decisions related to it;

d. identify each component's development status type, if known (such as new development, reuse of an existing component or its design, etc.). For existing design or components, the description must provide the name, version, documentation references, and other appropriate information; and

e. present a specification tree, that is, a diagram that identifies and shows the relationships among the components and their specifications.

4.2 Concept of execution

This section must describe the concept of execution among the system components. It must include diagrams and descriptions showing the dynamic relationship between the components. In particular, how they will interact during system operation, including diagrams on data flow, control, sequencing, interrupts, priorities and other aspects of dynamic behavior.

A. Appendixes

Appendixes may be used to provide information published separately (e.g., charts, classified data, etc.). As applicable, each appendix must be referenced in the main body of the document where the data would normally have been provided. Appendixes may be bound as separate documents for ease in handling.

DATA ITEM DESCRIPTION

DND Form 1409

1.TITLE	2.IDENTIFICATION NUMBER
VRAPP Product Specifications (VPS)	SE-005

3.DESCRIPTION

This document details the product specifications for the VRAPP system which specify design requirements, such as materials to be used, how a requirement is to be achieved, and the methods to be used to ensure that each requirement has been met. This document must completely describe the functionality, properties and constraints of the system.

4.APPROVAL DATE	5.OFFICE OF PRIMARY INTEREST	6.GIDEP APPLICABLE
	VRAPP Project Manager	

7.APPLICATION / INTERRELATIONSHIP

7.1 This DID contains VPS format, content and preparation instructions.
7.2 CDRL 013 specifies the procedure for submitting VPSs.

8.ORIGINATOR	9.APPLICABLE FORMS
VRAPP PM	

10.PREPARATION INSTRUCTIONS

10.1 General instructions. The VRAPP Product Specifications document must be prepared in a format suggested by the contractor and approved by the VRAPP PM.

10.2 Content requirements.

1. Scope

This paragraph must briefly specify the purpose of the system and software to which this document applies.

2. Referenced documents

This section must present a list of numbers, titles and release dates of all documents cited in the specifications document. This section must also identify the sources of all documents that are not accessible through normal Government sources.

3. Specifications

This section must include the following, as a minimum:

- system external interface specifications;
- system internal interface specifications;
- system environment specifications;
- resource specifications (hardware, software and communication);

A. Appendixes

Appendixes may be used to provide information published separately (e.g., charts, classified data, etc.). As applicable, each appendix must be referenced in the main body of the document where the data would normally have been provided. Appendixes may be bound as separate documents for ease in handling.

DATA ITEM DESCRIPTION		DND Form 1409
1.TITLE Software User Manual (SUM)		2. IDENTIFICATION NUMBER SE-006
3.DESCRIPTION The SUM describes for the user how to deploy, configure and use the VRAPP SoS.		
4.APPROVAL DATE	5.OFFICE OF PRIMARY INTEREST VRAPP Project Manager	6.GIDEP APPLICABLE
7.APPLICATION / INTERRELATIONSHIP 7.1 This DID contains SUM format, content and preparation instructions. 7.2 CDRL 014 specifies the procedures for submitting SUMs.		
8.ORIGINATOR VRAPP PM	9.APPLICABLE FORMS	

10.PREPARATION INSTRUCTIONS

10.1 General instructions. The SUM must be prepared in a format suggested by the contractor and approved by the VRAPP PM.

10.2 Content requirements.

1. Scope

This paragraph must briefly state the purpose of the system and the software to which this document applies. It must describe: the general nature of the system and software; summarize the history of system development, operation, and maintenance; identify the project manager, users, developers, and support agencies; and identify current and planned operating sites.

2. Referenced documents

This section must list the number, title, revision, and date of all documents referenced in this manual. This section must also identify the source for all documents not available through normal Government sources.

3. Summary

This section must:

- provide a brief description of the intended uses of VRAPP and software components – capabilities, operating improvements, and expected benefits;
- identify the hardware, software, manual operations, and other resources needed for a user to configure, deploy and run the software;
- provide a brief description of the organization and operation of the software from the user's point of view; and

- identify points of contact and procedures to be followed to obtain assistance and report problems encountered using the software.

4. System access

This section must contain step-by-step procedures oriented to the first time/occasional user. Enough detail must be presented so that the user can easily access the VRAPP SoS without knowing all its functional capabilities. This section must also describe any procedures that the user must perform to be identified or authorized to access or install software on the equipment, to perform the installation, to configure the software, to delete or overwrite files, and to enter parameters for software operation.

5. System use

This section must provide the user with all detailed procedures for using the VRAPP SoS.

A. Appendixes

Appendixes may be used to provide information published separately (e.g., charts, classified data, etc.). As applicable, each appendix must be referenced in the main body of the document where the data would normally have been provided. Appendixes may be bound as separate documents for ease in handling.

Resources Profiles – Typical Responsibilities

To fulfill the objectives of this SOW, the Contractor will be required clearly demonstrate that he provides the required resource types to execute the work. The following table describes, for each required resource type, the roles and responsibilities that may be required during the contract.

ROLE	TYPICAL RESPONSIBILITIES
Project Management	
Project Manager (PM)	Act as the official representative to the Canada for the prime Contractor and its partners. Assume the responsibility for the overall project planning, execution and timely delivery. Perform all required project management and leadership activities (e.g., planning, assigning resources, assign due dates, enforce project schedule and milestones, etc.). Keep track of all the project activities, progress, budget and deliverables. Identify, assess and continually manage risk, issues and change. Report regularly to the VRAPP Technical Authority on the evolution of the work, the issues that arise and solutions to be applied in order to meet the requirements within the budget and schedule constraints.
System Architecture and Design	
Lead System of Systems Architect (LSA)	Assume the leadership and responsibility for VRAPP System of Systems (SoS) architecture, standards, models and technical choices. Provide a strong technical leadership for the overall architecture of the overall solution and its integration within operational environment. Seek VRAPP PM approval for any selected technical solution prior to any implementation. Support VRAPP TD Architecture Working Group. Communicate in comprehensible manner all architectural and technical choices to VRAPP PM. Assume the responsibility of enforcing the use of a robust development methodology as described in the “VRAPP Guidelines on Best Practices for Software Engineering” and “VRAPP System Engineering Process Guidelines”.
Software Solution Architect (SSA)	Develop a functional architecture for VRAPP project. Develop software configurations to support VRAPP TD. Develop techniques to improve the system throughout and optimize software utilization. Develop and enforce software maintenance and monitoring protocols. Provide advice to the project leadership to ensure that the requirements are met by the selected solution. Break-down the high-level design into detailed workflows, interface designs, report layouts, database diagrams and application diagrams.
Hardware Solution Architect (HSA)	Assume the responsibility for the design, development and implementation of VRAPP hardware architecture. Analyse computer software systems, data, communications and response

ROLE	TYPICAL RESPONSIBILITIES
	requirements. Develop computer hardware configurations to support VRAPP TD. Develop techniques to improve the system throughout and optimize hardware utilization. Develop and enforce hardware maintenance and monitoring protocols. Analyse VRAPP physical systems shortfalls and propose corrective affordable hardware measures.
User Interface Analyst (UIA)	Propose and enforce a user interface design methodology. Develop a very good understanding of the end-user interface requirements and preferences based on the functional architecture. Assume the responsibility to create and validate mock-ups of the user interfaces priori to implementation. Develop and assess user acceptance metrics.
System/Network Analyst (SNA)	Assume the responsibility to design, develop and maintain the VRAPP network. Assume the technical leadership in the use and optimization of network technology for the VRAPP project. Perform network robustness and performance analysis. Provide expertise related to network issues associated with latency, real-time processing, bandwidth, etc.
Data Base Administrator (DBA)	Assume the responsibility to design, develop and maintain VRAPP logical data architecture, models and databases. Assume the technical leadership in the use and optimization of data modeling techniques for the VRAPP project. Apply data warehouse design principles and tenets. Provide expertise related to database issues associated with multi-users, multi-dimensional analysis and multi-level access. Assume the responsibility of developing methods and tools to maintain data coherence and persistence.
Information Technology Security Analyst (ITSA)	Assume the responsibility to review, develop and enforce Information Technology (IT) security policies, standards, guidelines and procedures. Conduct security threat and risk assessment of IT facilities, application systems and communications. Conduct reviews of backups and recovery plans. Provide advice on the security aspects of application systems under development.
Web Application Analyst (WAA)	Assume responsibility for all VRAPP Web Applications. Design and develop the Web online multi-media content management associated to the project and the system to be developed. Architect Web tools in order to develop dynamic Web applications. Develop and implement usability tests, analyze the results and modify the design accordingly. Develop site maps depicting navigation and basic content, and content diagrams showing the interactive connection between pages.

ROLE	TYPICAL RESPONSIBILITIES
	System Programming
Senior Programmer (SP)	Ensure the feasibility of implementing the overall software architecture and design of the system to be developed. Lead the team of programmers to implement and program the targeted system solution. Implement and program specific system solutions and the associated components. Provide advices on various software systems technologies including: distributed systems; clients and servers application implementation; communication protocols, remote method invocation, TCP/IP networking, IP broadcast, IP multicasts addresses, sockets and ports; programming languages (C++, Java, etc.); and integration of legacy systems. Plan, control and evaluate systems testing, and provide directives to the team of programmers. Manage the application of the VRAPP development methodology as described in the "VRAPP Guidelines on Best Practices for Software Engineering" and "VRAPP System Engineering Process Guidelines".
Intermediate Programmer (IP)	Ensure the feasibility of implementing specific sub-system elements. Implement and program specific system solutions and the associated components. Provide development leadership in specialized areas. Advice on best course of actions related to lower level implementation details. Perform system testing. Apply the VRAPP development methodology as described in the « Karma Development Guideline 1.1 avril 2008» and "VRAPP System Engineering Process Guidelines".
Intermediate Web Developer (IWD)	Develop and prepare diagrammatic plans for Web based service delivery. Analyze the problems outlined by the systems analysts/designers in terms of such factors as style and extent of information to be transferred managed by the Web site. Select and use the best available Web development technology for linking the internet based client to the departmental "back end" information delivery programs and databases. Design and code high-usability Web pages to meet pre-define requirements. Develop, verify, test and correct Web pages.
Technical Writer / Webmaster (TWW)	Work with the development team to create robust technical documentation using a rigorous documentation process. Manage and enforce documentation standards (hardware and software). Assume the responsibility for the timely production of any technical document related to the project. Assume the responsibility for the validation of the information contained in any produced document. Assume the responsibility for software and hardware systems documentation including: the description of the project and business purpose; high level and detailed levels architecture/design and network topology; and the detailed installation instructions of all key components. Assume the responsibility for all VRAPP related Web Management activities (e.g., create new Web site pages, populate the Web site utilizing templates, standard

ROLE	TYPICAL RESPONSIBILITIES
	graphics, develop new forms, graphics and documents). Manage the content and the access to all related documents according to the approved VRAPP plans and procedures. Support users and site problems.
Senior System Engineer (SSE)	Ensure the feasibility of implementing the overall hardware architecture and design of the system to be developed. Lead the team of engineers to design and implement the targeted system solution. Design, develop and test specific system solutions and their associated components. Provide advice on various hardware systems technologies including: real-time computing systems; real-time software-based control systems; Hardware-in-the-loop simulators or systems; embedded computers; custom digital and analog electronic boards design, development and tests; and integration of components within legacy systems. Plan, control and evaluate systems testing, and provide directives to the team of engineers. Managing the application of the VRAPP development methodology as described in the « Karma Development Guideline 1.1 avril 2008» and "VRAPP System Engineering Process Guidelines".
Intermediate System Engineer (ISE)	Ensure the feasibility of implementing specific sub-system elements. Design, develop and test specific system solutions and their associated components. Provide development leadership in specialized areas. Advice on best course of actions related to lower level implementation details. Perform system testing. Applying the VRAPP development methodology as described in the « Karma Development Guideline 1.1 avril 2008» and "VRAPP System Engineering Process Guidelines".
Subject Matter Experts	
Virtual Simulation Specialist (VSS)	Assume the responsibility to plan, conduct and analyze digital simulations performed with VRAPP. Assume the technical leadership in the modelling of the software components required to conduct specific simulations. Assume the responsibility of producing simulation verification and validation plans and reports, according to the VRAPP methodology, for any required simulation. Provide expertise related to modelling and simulation issues associated with physics-based modelling and simulation; model-driven architecture (MDA); OO simulation framework; computer Generated Forces (CGF); simulation scripting, planning and execution; and data analysis. Manage the application of the VRAPP development methodology, as described in the « Karma Development Guideline 1.1 avril 2008» and "VRAPP System Engineering Process Guidelines", to digital model development and/or update.
Hybrid Simulation Specialist (HSS)	Assume the responsibility to plan, conduct and analyze hybrid simulations (i.e., including hardware-in-the-loop components) performed with VRAPP. Assume the responsibility of producing simulation verification and validation plans and reports, according to the VRAPP methodology, for any required simulation. Provide expertise related to modelling and simulation issues associated with

ROLE	TYPICAL RESPONSIBILITIES
	simulation scripting, planning and execution; real-time operating systems; network communication; shared memory; digital and electronic interfaces; and data analysis. Manage the application of the VRAPP development methodology, as described in the « Karma Development Guideline 1.1 avril 2008» and “VRAPP System Engineering Process Guidelines”, to digital model development and/or update.
EO Warfare Advisor (EWA)	Provide expertise and advice to the development team with respect to issues/questions related to: EO-guided missile technology; IR emission of military platforms; EO countermeasures (expendables and jammers); atmospheric and environmental phenomenology in the IR; and EW data analysis. Assume the technical leadership and assistance in the verification and validation of the EO warfare related simulation components. Provide expertise for the analysis of digital simulations performed with VRAPP.
EO Systems Specialist (ESS)	Provide expertise and advice to the development team with respect to issues/questions related to: EO sensor technology; optronic systems; IR emission of material; measurement of UV, VIS and IR radiation; atmospheric and environmental phenomenology in the IR; and EO system data analysis. Assume the technical leadership and assistance in the verification and validation of the EO system related simulation components. Provide expertise for the analysis of digital simulations performed with VRAPP.

Government of Canada / Gouvernement du Canada

Contract Number / Numéro du contrat
W7701-7-3307A
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	2. Branch or Directorate / Direction générale ou Direction
DND	DRDC
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
Development and demonstration of the VRAPP (Virtual Range for Advanced Platform Protection) capability

5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?	☐ No / Non	☒ 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?	☐ No / Non	☒ 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)	☐ No / Non	☒ 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.	☒ No / Non	☐ 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?	☒ No / Non	☐ 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 ☒	NATO / OTAN ☒	Foreign / Étranger ☒
7. b) Release restrictions / Restrictions relatives à la diffusion		
No release restrictions / Aucune restriction relative à la diffusion	All NATO countries / Tous les pays de l'OTAN ☒	No release restrictions / Aucune restriction relative à la diffusion
Not releasable / À ne pas diffuser		
Restricted to: / Limité à : ☒ Specify country(ies): / Préciser le(s) pays : Australie, Angleterre et États-Unis	Restricted to: / Limité à : ☐ Specify country(ies): / Préciser le(s) pays :	Restricted to: / Limité à : ☒ Specify country(ies): / Préciser le(s) pays : Australie, Angleterre et États-Unis

7. c) Level of information / Niveau d'information

Canada	NATO / OTAN	Foreign / Étranger
PROTECTED A / PROTÉGÉ A ☒	NATO UNCLASSIFIED / NATO NON CLASSIFIÉ ☒	PROTECTED A / PROTÉGÉ A ☐
PROTECTED B / PROTÉGÉ B ☒	NATO RESTRICTED / NATO DIFFUSION RESTREINTE ☒	PROTECTED B / PROTÉGÉ B ☐
PROTECTED C / PROTÉGÉ C ☐	NATO CONFIDENTIAL / NATO CONFIDENTIEL ☒	PROTECTED C / PROTÉGÉ C ☐
CONFIDENTIAL / CONFIDENTIEL ☒	NATO SECRET / NATO SECRET ☒	CONFIDENTIAL / CONFIDENTIEL ☒
SECRET / SECRET ☒	COSMIC TOP SECRET / COSMIC TRÈS SECRET ☐	SECRET / SECRET ☒
TOP SECRET / TRÈS SECRET ☐		TOP SECRET / TRÈS SECRET ☐
TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) ☐		TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) ☐

PART A (continued) / PARTIE A (suite)

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

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

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

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

☒ RELIABILITY STATUS / COTE DE FIABILITÉ	☐ CONFIDENTIAL / CONFIDENTIEL	☒ SECRET / SECRET	☐ TOP SECRET / TRÈS SECRET
☐ TOP SECRET– SIGINT / TRÈS SECRET – SIGINT	☐ NATO CONFIDENTIAL / NATO CONFIDENTIEL	☒ NATO SECRET / NATO SECRET	☐ COSMIC TOP SECRET / COSMIC TRÈS SECRET
☐ SITE ACCESS / ACCÈS AUX EMPLACEMENTS			

Special comments:
Commentaires spéciaux : Une partie des travaux sera effectuée sur le site de RDDC Valcartier

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? ☐ No / Non ☒ Yes / Oui
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail?
If Yes, will unscreened personnel be escorted? ☐ No / Non ☒ Yes / Oui
Dans l'affirmative, le personnel en question sera-t-il escorté?

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? ☒ No / Non ☐ Yes / Oui
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS?

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

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? ☒ No / Non ☐ Yes / Oui
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ?

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? ☒ No / Non ☐ Yes / Oui
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?

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

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 A	PROTECTED / PROTÉGÉ B	PROTECTED / PROTÉGÉ C	CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRÈS SECRET
Information / Assets / Renseignements / Biens	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Production	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
IT Media / Support TI	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
IT Link / Lien électronique	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE?

☒ No / Non ☐ Yes / Oui

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

NOTE: THIS IS A GUIDE ONLY. ONLY PWGSC/CISD SECURITY CLAUSES INCOPORATED INTO THE CONTRACT ARE CONSIDERED LEGALLY BINDING. THIS GUIDE IS FOR THE USE OF THE DND PROJECT/TECHNICAL/SCIENTIFIC AUTHORITY AND PWGSC/CISD. IT SHOULD NOT FORM PART OF THE CONTRACTUAL DOCUMENTATION TO BE DELIVERED TO THE CONTRACTOR.

Security Guide To W770173307A

- Access to CLASSIFIED/PROTECTED information or assets under this contract is restricted to citizens of Canada, Australia, US and UK.

- CLASSIFIED/PROTECTED information and assets exchanged or generated in connection with this procurement will be used, transmitted and safeguarded in accordance with the Government Security Policy and procedures which, for Contractor personnel working on their own sites are contained in the Industrial Security Manual. Contractor personnel working on DND sites shall abide by the National Defence Security Policy (NDSP) and the National Defence Security Instructions (NDSI) as well as any Information Technology publications that may apply. DND Unit Security Supervisors are responsible to brief Contractor employees on these policies and any other security instructions/policies as required. Foreign Contractors will abide by their Governments` national security regulations and/or bilateral agreements MOU.

- Prior to allowing any access to CLASSIFIED/PROTECTED information, assets, or secure premises, confirmation of Contractor personnel's security clearances must be forwarded on a Visit Clearance Request through the Canadian Industrial Security Division (CISD) of Public Works & Government Services Canada (PWGSC) for approval and bear the name of this contract/project/program/contract number and the Project Officer.

- Contractor personnel requiring access to the National Defence Wide Area Network (DWAN) or Controlled Goods must be registered and cleared to the requisite level with the Canadian Industrial Security Directorate – Controlled Goods Program (CGP), prior to being given a network account or access to the information or assets.

- Contractor personnel will be required to access UNCLASSIFIED Controlled Goods. Therefore, Contractor must be registered with the Controlled Goods Program of Public Works and Government Services Canada.

- Prior to have access to NATO information and assets, Contractor/Sub-contractor personnel must hold a valid NATO Security Clearance and are required to sign a copy of the NATO procedures for safeguarding such information and assets in accordance with the provisions of the North Atlantic Treaty Organization" C-M (2002) 49.

- There will be a requirement for Contractors to have access to UNCLASSIFIED Military Critical Technical Data controlled in the United States by Department of Defence (DoD) Directive 5230.25 and, in Canada, by the Technical Data Control Regulations. Contractors having access to such information must be certified under the U.S./Canada Joint Certification Program to be eligible to bid on this contract.

- At no time will Contractor personnel be allowed to remove any CLASSIFIED/PROTECTED information/data and/or assets from DND premises (including such information processed on Contractor's own laptops Information Technology [IT] systems). At no time will the Contractor be allowed external IT connections to DND LAN systems.

- Prior to leaving the (DND) premises, Contractors who have used their own IT systems to process CLASSIFIED/PROTECTED information, shall have the system hard disk drives (HDD) retained by DND authorities.

- All CLASSIFIED/PROTECTED documents, reports, systems and/or assets developed and extensions thereto under any tasking relating to this contract shall not be reproduced or divulged/disseminated to a third party without the prior written permission of DND. Improper or unauthorized disclosure of this information may constitute an offence under the Security of Information Act.

- Subcontracts containing security requirements are prohibited without the prior written authority of the Canadian Industrial Security Division of the Department Public Works Government Services Canada (CISD/PWGSC).

DND Personnel:

The DND Contract Security Officer, DPM Secur 3-4 is the contact person for information pertaining to security concerns identified in this procurement.

Industrial Personnel:

The Company Security Officer (CSO) or alternate may contact CISD/PWGSC for information pertaining to security concerns identified in this procurement. Foreign suppliers shall direct security related inquiries to their responsible National Security Authority/Designated Security Authority (NSA/DSA) and shall adhere to instructions issued by their responsible NSA/DSA.

Detailed Table of Rated Technical Criteria

RATED TECHNICAL CRITERIA	MAX	MIN
1.0 MANAGEMENT PROPOSAL ***For criteria 1.1 and 1.2, points will be awarded according to the scale provided in the criterion.*** ***For criteria 1.3 and 1.4, the bidder will be awarded a score between 0 and the total number of points based on the degree to which it meets the requirements of the criterion.***	**80**	**48**
1.1 Experience of the project manager in managing comparable ($1M and above) projects in the fields of virtual and constructive simulations for defence applications: • Experience of more than 48 months (25/25). • Experience of more than 36 months, but less than 48 months (20/25). • Experience of more than 24 months, but less than 36 months (15/25). • Experience of more than 12 months, but less than 24 months (10/25). • Experience of more than 6 months, but less than 12 months (5/25).	25	N/A
1.2 Experience of the project manager in managing comparable ($1M and above) projects in the EO warfare domain: • Experience of more than 48 months (25/25). • Experience of more than 36 months, but less than 48 months (20/25). • Experience of more than 24 months, but less than 36 months (15/25). • Experience of more than 12 months, but less than 24 months (10/25). • Experience of more than 6 months, but less than 12 months (5/25).	25	N/A
1.3 Methods/tools for planning tasks The bidder should present its method for planning tasks. It should also present the tools and/or methods it proposes to use. The methods/tools presented should be relevant to achieving the project objectives.	15	N/A
1.4 Methods/tools for following and monitoring tasks The bidder should present its method for following and monitoring the progress of tasks. It should also present the tools and/or methods it proposes to use. The methods/tools presented should be relevant to achieving the project objectives.	15	N/A

Detailed Table of Rated Technical Criteria

2.0 EXPERIENCE OF PERSONNEL DIRECTLY INVOLVED IN PROJECT **Note: this section contains 18 groups of criteria (2.1, 2.2, etc.) associated with 18 categories of personnel required (the project manager is evaluated in section 1.0 above).** **Each resource proposed in a given category will be evaluated based on the appropriate group of criteria, and will be awarded an overall score for that group.** **The average of all scores awarded to resources proposed in a given category must be equal to or greater than the minimum score required for that group of criteria.**	**297**	**141**
2.1 Lead System of Systems Architect (LSA) ***For criteria 2.1.1 to 2.1.3, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criteria 2.1.4 to 2.1.6, points will be awarded according to the scale provided in the criterion.***	**23**	**12**
2.1.1 Experience of at least seventy-two (72) months in system of systems (hardware and software) development.	4	N/A
2.1.2 Experience as a senior system architect for at least two (2) major IT projects of at least $1 million each.	4	N/A
2.1.3 LSA experience of at least twenty-four (24) months in at least three (3) of the following IT streams (24 months per stream): Exploiting relational databases (at least one (1) from Oracle or SQL Server); Architecting and deploying systems on various types of hardware and operating system platforms (e.g. Windows PC, Unix SUN/HP); Architecting and deploying real-time hardware and software systems; Architecting solutions from Web/Enterprise technologies including networks; Recommending software development/acquisition (COTS/FOSS) options to fulfill the objectives of research projects; Applying automated tools to produce living technical design and architecture documentation for the development of at least one (1) system.	4	N/A
2.1.4 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or	4	N/A

Detailed Table of Rated Technical Criteria

computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).		
2.1.5 Electro-optical warfare experience Experience of at least 12 months in the development of infrared countermeasures (3/3); Experience of at least 12 months in countermeasures and in the field of EO protection of military platforms (2/3); Experience of at least 12 months in the field of military guided weapon systems (1/3).	3	N/A
2.1.6 Modeling, simulation and object-oriented development experience (MOO) Experience of more than 36 months in the field of modeling and simulation, and experience of more than 36 months in the development of object-oriented software components (4/4); Experience of more than 24 months in the field of modeling and simulation, and experience of more than 24 months in the development of object-oriented software components (3/4); Experience of more than 24 months in the field of modeling and simulation, and experience of at least 12 months in the development of object-oriented software components (2/4); Experience of more than 12 months in the field of modeling and simulation (1/4).	4	N/A
2.2 Software Solutions Architect (SSA) ***For criteria 2.2.1 to 2.2.3, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criteria 2.2.4 to 2.2.6, points will be awarded according to the scale provided in the criterion.***	**21**	**10**
2.2.1 Experience of at least thirty-six (36) months as a software solutions architect for one or more IT projects of over $500,000.	4	N/A
2.2.2 SSA experience of at least twenty-four (24) months doing the software solution analysis of various R&D systems, including real-time OS and networks.	3	N/A
2.2.3 SSA experience of at least twenty-four (24) months in at least two (2) of the following IT streams (24 months per stream):	3	N/A

Detailed Table of Rated Technical Criteria

Integrating applications with relational databases (at least one (1) from Oracle or SQL Server); Designing applications based on programming languages (at least three (3) from C++, C# .NET, PL/SQL, HTML, XML, Java, Visual Basic); Applying object-oriented design concepts to the development of at least two (2) systems; Expressing the design of at least two (2) systems with modeling languages.		
2.2.4 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A
2.2.5 Electro-optical warfare experience Experience of at least 12 months in the development of infrared countermeasures (3/3); Experience of at least 12 months in countermeasures and in the field of EO protection of military platforms (2/3); Experience of at least 12 months in the field of military guided weapon systems (1/3).	3	N/A
2.2.6 Modeling, simulation and object-oriented development experience (MOO) Experience of more than 36 months in the field of modeling and simulation, and experience of more than 36 months in the development of object-oriented software components (4/4); Experience of more than 24 months in the field of modeling and simulation, and experience of more than 24 months in the development of object-oriented software components (3/4); Experience of more than 24 months in the field of modeling and simulation, and experience of at least 12 months in the development of object-oriented software components (2/4); Experience of more than 12 months in the field of modeling and simulation (1/4).	4	N/A

Detailed Table of Rated Technical Criteria

2.3 Hardware Solutions Architect (HSA) ***For criteria 2.3.1 to 2.3.3, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criteria 2.3.4 to 2.3.6, points will be awarded according to the scale provided in the criterion.***	**20**	**10**
2.3.1 HSA experience of at least thirty-six (36) months as a hardware architect/specialist for one or more IT projects of over $500,000.	3	N/A
2.3.2 Experience of at least twenty-four (24) months with real-time processing systems.	3	N/A
2.3.3 Experience of at least twenty-four (24) months in at least two (2) of the following streams (24 months per stream): System architecture of hardware components used in telecom systems like hosts; Network switches and storage solutions; Windows PC; Unix and Real-Time OS; How OS and hardware interact.	3	N/A
2.3.4 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A
2.3.5 Electro-optical warfare experience Experience of at least 12 months in the development of infrared countermeasures (3/3); Experience of at least 12 months in countermeasures and in the field of EO protection of military platforms (2/3); Experience of at least 12 months in the field of military guided weapon systems	3	N/A

(1/3).		
2.3.6 Modeling, simulation and object-oriented development experience (MOO) Experience of more than 36 months in the field of modeling and simulation, and experience of more than 36 months in the development of object-oriented software components (4/4); Experience of more than 24 months in the field of modeling and simulation, and experience of more than 24 months in the development of object-oriented software components (3/4); Experience of more than 24 months in the field of modeling and simulation, and experience of at least 12 months in the development of object-oriented software components (2/4); Experience of more than 12 months in the field of modeling and simulation (1/4).	4	N/A
2.4 User Interface Analyst (UIA) ***For criteria 2.4.1 and 2.4.2, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criteria 2.4.3 to 2.4.5, points will be awarded according to the scale provided in the criterion.***	**16**	**8**
2.4.1 Experience of at least thirty-six (36) months as a user interface analyst or designer for one (1) or more IT projects of over $500,000.	3	N/A
2.4.2 Experience with a user interface project of over $200,000 within the past 5 years.	2	N/A
2.4.3 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A
2.4.4 Electro-optical warfare experience Experience of at least 12 months in the development of infrared countermeasures (3/3);	3	N/A

Detailed Table of Rated Technical Criteria

Experience of at least 12 months in countermeasures and in the field of EO protection of military platforms (2/3); Experience of at least 12 months in the field of military guided weapon systems (1/3).		
2.4.5 Modeling, simulation and object-oriented development experience (MOO) Experience of more than 36 months in the field of modeling and simulation, and experience of more than 36 months in the development of object-oriented software components (4/4); Experience of more than 24 months in the field of modeling and simulation, and experience of more than 24 months in the development of object-oriented software components (3/4); Experience of more than 24 months in the field of modeling and simulation, and experience of at least 12 months in the development of object-oriented software components (2/4); Experience of more than 12 months in the field of modeling and simulation (1/4).	4	N/A
2.5 System/Network Analyst (SNA) ***For criteria 2.5.1 and 2.5.2, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criteria 2.5.3 and 2.5.4, points will be awarded according to the scale provided in the criterion.***	**14**	**7**
2.5.1 Experience of at least thirty-six (36) months as a system and network analyst for one (1) or more IT projects of over $500,000.	3	N/A
2.5.2 Experience providing support for at least one (1) government classified network project.	3	N/A
2.5.3 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A

Detailed Table of Rated Technical Criteria

2.5.4 Modeling, simulation and object-oriented development experience (MOO) Experience of more than 36 months in the field of modeling and simulation, and experience of more than 36 months in the development of object-oriented software components (4/4); Experience of more than 24 months in the field of modeling and simulation, and experience of more than 24 months in the development of object-oriented software components (3/4); Experience of more than 24 months in the field of modeling and simulation, and experience of at least 12 months in the development of object-oriented software components (2/4); Experience of more than 12 months in the field of modeling and simulation (1/4).	4	N/A
2.6 Data Base Administrator (DBA) ***For criteria 2.6.1 and 2.6.2, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criterion 2.6.3, points will be awarded according to the scale provided in the criterion.***	**10**	**5**
2.6.1 DBA experience of at least thirty-six (36) months for one or more IT projects of over $500,000, with the responsibility of designing a database, including: modeling activities, creation of tables and management of the database.	3	N/A
2.6.2 DBA experience of at least thirty-six (36) months in at least three (3) of the following database technology streams (36 months per stream): Metadata exploitation; Performance management; Data quality; Data access; Extraction, transformation/transport and loading (ETL); Relational databases.	3	N/A
2.6.3 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A

Detailed Table of Rated Technical Criteria

2.7 Information Technology Security Analyst (ITSA) ***For criteria 2.7.1 and 2.7.2, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criterion 2.7.3, points will be awarded according to the scale provided in the criterion.***	**10**	**5**
2.7.1 Experience of at least thirty-six (36) months as an information technology security analyst for one or more IT projects of over $500,000.	3	N/A
2.7.2 ITSA experience in at least one (1) government security-related project.	3	N/A
2.7.3 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A
2.8 Web Application Analyst (WAA) ***For criteria 2.8.1 and 2.8.2, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criterion 2.8.3, points will be awarded according to the scale provided in the criterion.***	**10**	**5**
2.8.1 Experience of at least twenty-four (24) months as a Web application analyst for one (1) or more IT projects of over $200,000.	3	N/A
2.8.2 Experience of at least twenty-four (24) months in at least two (2) of the following major IT streams (24 months per stream): 3-tier Web applications; Application servers (e.g. J2EE, .NET); HTML and XML/XSLT; ASP, JSP pages; Web scripting languages (e.g., VB script, JavaScript).	3	N/A

Detailed Table of Rated Technical Criteria

2.8.3 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A
2.9 Senior Programmer (SP) ***For criteria 2.9.1 and 2.9.2, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criteria 2.9.3 to 2.9.5, points will be awarded according to the scale provided in the criterion.***	**20**	**10**
2.9.1 Experience of at least sixty (60) months as leader of a software development team responsible for the architecture and design of a system.	5	N/A
2.9.2 Programming experience of at least thirty-six (36) months in at least three (3) of the following IT streams (36 months per stream): C++; Client-server and .NET system development; Java; XML programming; Real-time operating systems; Integration of applications in relational databases; Integration of applications in existing systems; Web technologies.	4	N/A
2.9.3 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer	4	N/A

engineering or computer science (1/4).		
2.9.4 Electro-optical warfare experience Experience of at least 12 months in the development of infrared countermeasures (3/3); Experience of at least 12 months in countermeasures and in the field of EO protection of military platforms (2/3); Experience of at least 12 months in the field of military guided weapon systems (1/3).	3	N/A
2.9.5 Modeling, simulation and object-oriented development experience (MOO) Experience of more than 36 months in the field of modeling and simulation, and experience of more than 36 months in the development of object-oriented software components (4/4); Experience of more than 24 months in the field of modeling and simulation, and experience of more than 24 months in the development of object-oriented software components (3/4); Experience of more than 24 months in the field of modeling and simulation, and experience of at least 12 months in the development of object-oriented software components (2/4); Experience of more than 12 months in the field of modeling and simulation (1/4).	4	N/A
2.10 Intermediate Programmer (IP) ***For criteria 2.10.1 and 2.10.2, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criteria 2.10.3 to 2.10.5, points will be awarded according to the scale provided in the criterion.***	**20**	**10**
2.10.1 Experience of at least thirty-six (36) months as a software developer for one (1) or more IT projects.	5	N/A
2.10.2 Experience of at least twenty-four (24) months in one or more of the following IT streams (24 months per stream): C/C++ on Windows; Client-server and .NET system development; Java system development; Client-server and application server (e.g. J2EE) development; Integration of applications in relational databases;	4	N/A

Detailed Table of Rated Technical Criteria

Integration of applications in existing systems, Web technologies and XML.		
2.10.3 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A
2.10.4 Electro-optical warfare experience Experience of at least 12 months in the development of infrared countermeasures (3/3); Experience of at least 12 months in countermeasures and in the field of EO protection of military platforms (2/3); Experience of at least 12 months in the field of military guided weapon systems (1/3).	3	N/A
2.10.5 Modeling, simulation and object-oriented development experience (MOO) Experience of more than 36 months in the field of modeling and simulation, and experience of more than 36 months in the development of object-oriented software components (4/4); Experience of more than 24 months in the field of modeling and simulation, and experience of more than 24 months in the development of object-oriented software components (3/4); Experience of more than 24 months in the field of modeling and simulation, and experience of at least 12 months in the development of object-oriented software components (2/4); Experience of more than 12 months in the field of modeling and simulation (1/4).	4	N/A
2.11 **Intermediate Web Developer (IWD)** ***For criteria 2.11.1 and 2.11.2, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criterion 2.11.3, points will be awarded according to the scale provided in the criterion.***	**10**	**5**
2.11.1 Experience of at least thirty-six (36) months as a Web developer for one	3	N/A

or more IT projects.		
2.11.2 Experience creating at least one (1) Web portal, providing links to open sites and allowing end-users to personalize content and structure.	3	N/A
2.11.3 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A
2.12 Technical Writer / Webmaster (TWW) ***For criteria 2.12.1 to 2.12.3, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criterion 2.12.4, points will be awarded according to the scale provided in the criterion.***	**10**	**5**
2.12.1 Experience of at least twelve (12) months as a technical writer for IT/engineering projects.	2	N/A
2.12.2 Experience of at least twenty-four (24) months in managing the content of one or more Web sites.	2	N/A
2.12.3 Experience of at least twenty-four (24) months using one of the following Web/Internet technologies: ASP, HTML, XML, IIS and Web development.	2	N/A
2.12.4 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A
2.13 Senior Systems Engineer (SSE) ***For criteria 2.13.1 and 2.13.2, points will be awarded via the following***	**21**	**10**

method: ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criteria 2.13.3 to 2.13.5, points will be awarded according to the scale provided in the criterion.***		
2.13.1 Experience of at least sixty (60) months as leader of a technical team responsible for overall system architecture and design from a hardware perspective.	5	N/A
2.13.2 Experience of at least thirty (30) months in system development in at least two (2) of the following IT streams (30 months per stream): Real-time computing systems; Real-time software-based control systems; Hardware-in-the-loop simulators or systems; Embedded computers; Custom digital and analog electronic boards design, development and tests.	5	N/A
2.13.3 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A
2.13.4 Electro-optical warfare experience Experience of at least 12 months in the development of infrared countermeasures (3/3); Experience of at least 12 months in countermeasures and in the field of EO protection of military platforms (2/3); Experience of at least 12 months in the field of military guided weapon systems (1/3).	3	N/A
2.13.5 Modeling, simulation and object-oriented development experience (MOO) Experience of more than 36 months in the field of modeling and simulation, and experience of more than 36 months in the development of object-oriented software components (4/4); Experience of more than 24 months in the field of modeling and simulation, and experience of more than 24 months in the development of object-oriented	4	N/A

software components (3/4); Experience of more than 24 months in the field of modeling and simulation, and experience of at least 12 months in the development of object-oriented software components (2/4); Experience of more than 12 months in the field of modeling and simulation (1/4).		
2.14 Intermediate Systems Engineer (ISE) ***For criteria 2.14.1 and 2.14.2, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criteria 2.14.3 to 2.14.5, points will be awarded according to the scale provided in the criterion.***	**19**	**9**
2.14.1 Experience of at least thirty-six (36) months as a developer for engineering hardware sub-systems.	4	N/A
2.14.2 Experience of at least eighteen (18) months in developing systems in at least two (2) of the following IT streams (18 months per stream): Real-time computing systems; Real-time software-based control systems; Hardware-in-the-loop simulators or systems; Embedded computers; Custom digital and analog electronic boards design, development and tests.	4	N/A
2.14.3 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A
2.14.4 Electro-optical warfare experience Experience of at least 12 months in the development of infrared countermeasures (3/3); Experience of at least 12 months in countermeasures and in the field of EO protection of military platforms (2/3); Experience of at least 12 months in the field of military guided weapon systems	3	N/A

(1/3).		
2.14.5 Modeling, simulation and object-oriented development experience (MOO) Experience of more than 36 months in the field of modeling and simulation, and experience of more than 36 months in the development of object-oriented software components (4/4); Experience of more than 24 months in the field of modeling and simulation, and experience of more than 24 months in the development of object-oriented software components (3/4); Experience of more than 24 months in the field of modeling and simulation, and experience of at least 12 months in the development of object-oriented software components (2/4); Experience of more than 12 months in the field of modeling and simulation (1/4).	4	N/A
2.15 Virtual Simulation Specialist (VSS) ***For criteria 2.15.1 to 2.15.3, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criteria 2.15.4 to 2.15.6, points will be awarded according to the scale provided in the criterion.***	**23**	**11**
2.15.1 Experience of at least thirty-six (36) months as a virtual simulation specialist.	4	N/A
2.15.2 Experience of at least thirty-six (36) months conducting or managing physics-based modeling of actual systems of components.	4	N/A
2.15.3 Experience of at least twenty-four (24) months in five (5) of the following IT streams (24 months per stream): Physics-based modeling and simulation; Model-driven architecture (MDA); Object-oriented simulation framework; Advanced object-oriented concepts and design patterns; Computer Generated Forces (CGF); Matlab/Simulink and C++; Network communication; Simulation scripting, planning and execution; UML and XML; Data analysis.	4	N/A
2.15.4 Academic training Master or Doctorate in engineering physics, electrical engineering, computer	4	N/A

engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).		
2.15.5 Electro-optical warfare experience Experience of at least 12 months in the development of infrared countermeasures (3/3); Experience of at least 12 months in countermeasures and in the field of EO protection of military platforms (2/3); Experience of at least 12 months in the field of military guided weapon systems (1/3).	3	N/A
2.15.6 Modeling, simulation and object-oriented development experience (MOO) Experience of more than 36 months in the field of modeling and simulation, and experience of more than 36 months in the development of object-oriented software components (4/4); Experience of more than 24 months in the field of modeling and simulation, and experience of more than 24 months in the development of object-oriented software components (3/4); Experience of more than 24 months in the field of modeling and simulation, and experience of at least 12 months in the development of object-oriented software components (2/4); Experience of more than 12 months in the field of modeling and simulation (1/4).	4	N/A
2.16 Hybrid Simulation Specialist (HSS) ***For criteria 2.16.1 to 2.16.4, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criteria 2.16.5 to 2.16.7, points will be awarded according to the scale provided in the criterion.***	**23**	**11**
2.16.1 Experience of at least thirty-six (36) months as a hybrid simulation specialist (software and physics-based components combined).	3	N/A
2.16.2 Experience of at least thirty-six (36) months conducting or managing physics-based modeling of actual systems of components.	3	N/A
2.16.3 Experience of at least twenty-four (24) months embedding hardware components into simulations.	3	N/A

Detailed Table of Rated Technical Criteria

2.16.4 Experience of at least twenty-four (24) months in five (5) of the following IT streams (24 months per stream): Physics-based modeling and simulation; Object-oriented and real-time simulation frameworks; Computer Generated Forces (CGF); Matlab/Simulink and C++; Simulation scripting, planning and execution; Real-time operating systems; Network communication; Shared memory; Digital and electronic interfaces; Data analysis.	3	N/A
2.16.5 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A
2.16.6 Electro-optical warfare experience Experience of at least 12 months in the development of infrared countermeasures (3/3); Experience of at least 12 months in countermeasures and in the field of EO protection of military platforms (2/3); Experience of at least 12 months in the field of military guided weapon systems (1/3).	3	N/A
2.16.7 Modeling, simulation and object-oriented development experience (MOO) Experience of more than 36 months in the field of modeling and simulation, and experience of more than 36 months in the development of object-oriented software components (4/4); Experience of more than 24 months in the field of modeling and simulation, and experience of more than 24 months in the development of object-oriented software components (3/4);	4	N/A

Detailed Table of Rated Technical Criteria

Experience of more than 24 months in the field of modeling and simulation, and experience of at least 12 months in the development of object-oriented software components (2/4); Experience of more than 12 months in the field of modeling and simulation (1/4).		
2.17 EO Warfare Advisor (EWA) ***For criteria 2.17.1 and 2.17.2, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criterion 2.17.3, points will be awarded according to the scale provided in the criterion.***	**10**	**N/A**
2.17.1 Experience of at least thirty-six (36) months as an EO warfare specialist, with the responsibility for planning and/or conducting EO warfare-related analysis (countermeasure development, system specification and procurement, etc.).	4	N/A
2.17.2 Experience of at least twenty-four (24) months in two (2) of the following IT streams (24 months per stream): EO-guided missile technology; Infrared emission of military platforms; EO countermeasures (expendables and jammers); Atmospheric and environmental phenomenology and infrared radiation (3 pts); EO warfare data analysis.	3	N/A
2.17.3 Electro-optical warfare experience Experience of at least 12 months in the development of infrared countermeasures (3/3); Experience of at least 12 months in countermeasures and in the field of EO protection of military platforms (2/3); Experience of at least 12 months in the field of military guided weapon systems (1/3).	3	N/A
2.18 EO Systems Specialist (ESS) ***For criteria 2.18.1 and 2.18.2, points will be awarded via the following method:*** ***The bidder does not meet the criterion: 0 points*** ***The bidder meets the criterion: full points*** ***For criteria 2.18.3 to 2.18.5, points will be awarded according to the scale provided in the criterion.***	**17**	**8**
2.18.1 Experience of at least thirty-six (36) months as an EO systems specialist.	3	N/A
2.18.2 Experience of at least twenty-four (24) months in at least three (3) of the	3	N/A

Detailed Table of Rated Technical Criteria

following IT streams (24 months per stream): EO sensor technology; Optronic systems; Infrared emission of material; Measurement of ultraviolet, visible and infrared radiation; Atmospheric and environmental phenomenology and infrared radiation; EO system data analysis.		
2.18.3 Academic training Master or Doctorate in engineering physics, electrical engineering, computer engineering or computer science (4/4); Bachelor in engineering physics, electrical engineering, computer engineering or computer science (3/4); Bachelor, Master or Doctorate in an applied science field other than engineering physics, electrical engineering, computer engineering or computer science (2/4); Collegial level in engineering physics, electrical engineering, computer engineering or computer science (1/4).	4	N/A
2.18.4 Electro-optical warfare experience Experience of at least 12 months in the development of infrared countermeasures (3/3); Experience of at least 12 months in countermeasures and in the field of EO protection of military platforms (2/3); Experience of at least 12 months in the field of military guided weapon systems (1/3).	3	N/A
2.18.5 Modeling, simulation and object-oriented development experience (MOO) Experience of more than 36 months in the field of modeling and simulation, and experience of more than 36 months in the development of object-oriented software components (4/4); Experience of more than 24 months in the field of modeling and simulation, and experience of more than 24 months in the development of object-oriented software components (3/4); Experience of more than 24 months in the field of modeling and simulation, and experience of at least 12 months in the development of object-oriented software components (2/4); Experience of more than 12 months in the field of modeling and simulation (1/4).	4	N/A

Detailed Table of Rated Technical Criteria

3.0 Bidder (company) experience	**120**	**72**
3.1 Previous relevant experience of the bidder ***For criteria 3.1 to 3.4, points will be awarded according to the scale provided in the criterion.*** Note: Projects may be in progress or completed.	**60**	**N/A**
3.1.1 Number and extent of similar ($1M and above) projects in defence research and development and specifically related to the EO warfare domain within the past ten years: • The bidder demonstrates the completion of more than 4 similar projects (12/12); • The bidder demonstrates the completion of between 2 and 4 similar projects (8/12); • The bidder demonstrates the completion of one similar project (4/12); • The bidder has not completed a similar project (0/12).	12	N/A
3.1.2 Number and extent of similar ($1M and above) projects in defence modeling and simulation within the past ten years: • The bidder demonstrates the completion of more than 4 similar projects (16/16); • The bidder demonstrates the completion of between 2 and 4 similar projects (12/16); • The bidder demonstrates the completion of one similar project (8/16); • The bidder has not completed a similar project (0/16).	16	N/A
3.1.3 Number and extent of similar ($1M and above) projects in engineering processes within the past ten years: • The bidder demonstrates the completion of more than 4 similar projects (16/16); • The bidder demonstrates the completion of between 2 and 4 similar projects (12/16); • The bidder demonstrates the completion of one similar project (8/16); • The bidder has not completed a similar project (0/16).	16	N/A
3.1.4 Number and extent of similar ($1M and above) projects in defence systems within the past ten years: • The bidder demonstrates the completion of more than 4 similar projects (16/16); • The bidder demonstrates the completion of between 2 and 4 similar projects (12/16); • The bidder demonstrates the completion of one similar project (8/16); • The bidder has not completed a similar project (0/16).	16	N/A
3.2 Quality assurance process • The bidder presents a very well documented quality assurance process (20/20); • The bidder presents a documented quality assurance process (12/20); • No formal quality assurance process, but the company has guidelines for quality assurance (6/20);	**20**	**N/A**

Detailed Table of Rated Technical Criteria

• No quality assurance process (0/20 pt).		
3.3 Software development approach • The bidder provides evidence of formal software development accreditation (20/20); • The bidder demonstrates the use of a documented software development approach, but has no official accreditation (12/20); • No evidence of formal software development accreditation, nor of a documented and recognized software development approach (0/20 pt).	**20**	**N/A**
3.4 Nature of products (commercial or internal) developed previously by the bidder **Note: The nature of the product(s) developed will be evaluated based on the factors below; points will be totalled up to the maximum score for this criterion.** • Modeling and simulation product (5 pts) • Electro-optical warfare product (5 pts) • Software development framework (5 pts) • Commercial software or commercial hardware component (5 pts)	**20**	**N/A**
TOTAL	**497**	**261**