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LETTER OF INTEREST
LETTRE D'INTÉRÊT

Title - Sujet
Search & Rescue Mission Mgmt System

Solicitation No. - N° de l'invitation W8474-17SM06/A	**Date** 2017-06-19
Client Reference No. - N° de référence du client W8474-17SM06	**GETS Ref. No. - N° de réf. de SEAG** PW-$IPS-004-31610
File No. - N° de dossier 004ips.W8474-17SM06	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2017-07-21**	**Time Zone** **Fuseau horaire** Eastern Daylight Saving Time EDT

F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes
Plant-Usine: ☐ **Destination:** ☐ **Other-Autre:** ☑

Address Enquiries to: - Adresser toutes questions à: Patel, Ankoor	**Buyer Id - Id de l'acheteur** 004ips
Telephone No. - N° de téléphone (873) 469-4970 ( )	**FAX No. - N° de FAX** ( ) -

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:

Specified Herein
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Comments - Commentaires

Instructions: See Herein

Instructions: Voir aux présentes

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

Delivery Required - Livraison exigée See Herein	**Delivery Offered - Livraison proposée**

Vendor/Firm Name and Address
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Telephone No. - N°de téléphone
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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
Informatics Professional Services Division/Division des services professionnels en informatique
11 Laurier Street
11, rue Laurier
Place du Portage, Phase III, 4C2
Gatineau
Quebec
K1A0S5

Canada

REQUEST FOR INFORMATION (RFI)
REGARDING
THE SEARCH AND RESCUE MISSION MANAGEMENT SYSTEM (SMMS) APPLICATION
FOR
THE DEPARTMENT OF NATIONAL DEFENCE

1. Introduction

The primary Search and Rescue (SAR) responsibility of the Canadian Armed Forces (CAF) is the provision of aeronautical SAR missions and the coordination of the aeronautical and maritime SAR system. CAF resources may also assist in ground SAR efforts, medical evacuations and other humanitarian incidents if requested by the responsible provincial/territorial or municipal authority. The Canadian Rangers who are part of the CAF Reserves, regularly aid in ground SAR missions upon request in sparsely settled regions of the country.

The CAF have the primary responsibility for the provision of aeronautical SAR services (search for downed aircraft) whereas the Canadian Coast Guard (CCG) is responsible for maritime SAR services. The CAF is responsible for the effective operation of this coordinated aeronautical and maritime SAR system. Commander Canadian Joint Operations Command (CJOC), who is accountable for all CAF operations around the world, is also responsible for liaison with other SAR operating departments and agencies, both nationally and internationally, and the oversight of annual coordinating activities between the CAF and CCG, and regional SAR staffs.

2. Purpose and Nature of the Request for Information (RFI)

Public Services and Procurement Canada (PSPC) is requesting Industry feedback regarding the design, assembly, delivery and support of a Search and Rescue Mission Management System (SMMS) Web-based Application, and all aspects detailed in the attached draft Statement of Work (SOW) – Annex A and draft Evaluation Criteria – Annex B for the Department of National Defence.

The objectives of this RFI are to:

A) Provide Industry with an early opportunity to assess and comment on the DND's requirement in order to maximize best value to Canada and help develop a potential Request for Proposal (RFP);

B) Determine the capability of suppliers to provide the work described in this RFI;

C) Solicit feedback and recommendations on any issues that would impact a supplier's ability to fulfill DND's requirement;

D) Solicit Industry knowledge and expertise with regard to best practices, industry trends and current supplier capabilities;

E) Determine various complexities and risks associated with DND's requirement; and

F) Solicit feedback on objectives, deliverables, timelines and costing estimates.

This RFI is neither a call for tender nor a Request for Proposal (RFP). No agreement or contract will be entered into based on this RFI. The issuance of this RFI is not to be considered in any way a commitment by the Government of Canada, nor as authority to potential respondents to undertake any work that could be charged to Canada. This RFI is not to be considered as a commitment to issue a subsequent solicitation or award contract(s) for the work described herein.

Although the information collected may be provided as commercial-in-confidence (and, if identified as such, will be treated accordingly by Canada), Canada may use the information to assist in drafting performance specifications (which are subject to change) and for budgetary purposes.

Respondents are asked to identify if their response, or any part of their response, is subject to the Controlled Goods Regulations.

Participation in this RFI is encouraged, but is not mandatory. There will be no short-listing of potential suppliers for the purposes of undertaking any future work as a result of this RFI. Similarly, participation in this RFI is not a condition or prerequisite for the participation in any potential subsequent solicitation.

3. Background Information

The original SMMS client-server based SAR system was put into production in 2000 with the purpose of providing the SAR coordinators the functionality to obtain current situational awareness of a SAR incident, determine the appropriate course of action and record all activities related to a SAR mission. In 2013, DND issued a Request for Information (RFI) to determine if there was a solution to replace the current aging SMMS and implement a new, more robust, platform-neutral, integrated SMMS WEB based Application that could provide a modern architecture that meets the current and anticipated needs of Search and Rescue (SAR) operational procedures.

Since then, the requirement has been further defined. At this stage, the project is focused on designing, assembling, delivering and supporting a new integrated SMMS web-based Application. DND requires a complete Application, including all the Licenced Software {commercial off the shelf software (COTS), free and open-source software (FOSS), and custom software}, that functions in accordance with the SOW and integrates the following four central functionalities:

- Case/Mission Management - The case/mission management role is focused on the recording of all activities related to search and rescue missions;
- Command and Control (C2) - The C2 element of the Application is a Geographic Information System (GIS) based planning and coordination hub for the execution of search and rescue missions;
- Reporting – The Application must provide a number of preconfigured reports and the functionality to design, execute and save user defined reports; and
- Administration of Data – Administration of data (spatial, user, external resources, etc.) must provide a controlled means of maintaining the Application's data. Areas of administration will include, but are not limited to: User management

(authentication and authorization); Spatial data management; External data source management; Joint Rescue Coordination Centres (JRCC) asset management for both human and equipment; and Contact management.

4. Potential Work Scope and Constraints:

Following the RFI, PSPC intends to publish a competitive solicitation on Buy and Sell, which may result in a single competitive contract for an initial contract period of two years to complete the design, assembly and delivery stage, followed by up to five years of application maintenance and support services. The Contractor must hold a valid organizational security clearance at designated organization screening (DOS), and a personnel security clearance at the reliability status.

5. Legislation, Trade Agreements, and Government Policies:

The following is indicative of some of the legislation, trade agreements and government policies that could impact any subsequent solicitation(s) related to this requirement:

a) Agreement on Internal Trade (AIT);
b) North American Free Trade Agreement (NAFTA);
c) World Trade Organization – Agreements on Government Procurement (WTO-AGP);
d) Canada-Chile Free Trade Agreement (CCFTA);
e) Canada-Peru Free Trade Agreement (CPFTA);
f) Canada-Colombia Free Trade Agreement (CColFTA);
g) Canada-Panama Free Trade Agreement (CPanFTA);
h) Defence Production Act;
i) Defence Procurement Strategy (DPS); and
j) Federal Contractors Program for Employment Equity (FCP-EE).

6. Content of this RFI

A) This RFI contains a draft Statement of Work - Annex A and a draft Evaluation Criteria - Annex B. These documents remain a work in progress and respondents should not assume that new clauses or requirements will not be added to any bid solicitation that is ultimately published by Canada. Nor should respondents assume that none of the clauses or requirement will be deleted or revised. Comments regarding any aspect of the draft document are welcome; and

B) This RFI also contains specific questions addressed to the industry. Respondents are requested to review the attached draft Statement of Work (Annex A) and draft Evaluation Criteria (Annex B), and respond to the questions and provide comments on the information provided in Annex C - Format of Response.

7. Nature and Format of Responses Requested

Respondents are requested to provide their comments, concerns, and where applicable, alternative recommendations regarding how the requirements or objectives described in the RFI could be satisfied. Respondents are also invited to provide comments regarding the content of the requirement, format and/or

organization of Annex A – draft Statement of Work and Annex B – draft Mandatory and Rated Criteria included in this RFI. Respondents should explain any assumptions they make in their responses.

8. Response Costs

Respondents will not be reimbursed for any cost incurred by participating in this RFI.

9. Treatment of Responses

A) Use of Responses: Responses will not be formally evaluated. However, the responses received may be used by Canada to develop or modify procurement strategies or any draft documents contained in this RFI. Canada will review all responses received by the RFI closing date. Canada may, in its discretion, review responses received after the RFI closing date;

B) Review Team: A review team composed of representatives of the client (where applicable) and PSPC will review the responses. Canada reserves the rights to use any independent consultant, or use any Government resources that it considers necessary to review any response;

C) Confidentiality: Respondents should mark any portions of their response that they consider proprietary or confidential. Be advised that Canada will handle the responses in accordance with the *Access to Information Act;* and

D) Follow-up Activity: Canada may, in its discretion, contact any respondents to follow up with additional questions or for clarification of any aspect of a response.

10. Format of Responses

A) Cover Page: If the response includes multiple volumes, respondents are requested to indicate on the front cover page of each volume the title of the response, the solicitation number, the volume number and the full legal name of the respondent.

B) Title Page: The first page of each volume of the response, after the cover page, should be the title page, which should contain:

(i) the title of the respondent's response and the volume number;
(ii) the name and address of the respondent;
(iii) the name, address and telephone number of the respondent's contact
(iv) the date; and
(v) the RFI number

C) Numbering System: Respondents are requested to prepare their response using a numbering system corresponding to the one in this RFI. All references to descriptive material, technical manuals and brochures included as part of the response should be referenced accordingly.

D) Number of Copies: Canada requests that respondents submit 2 hard copies of their responses to the Bid Receiving Unit (described below) and 2 electronic copies by email to the Contracting

Authority (at the email addressed specified below). Please note that, due to Canada's firewall, there is a 3-megabyte limit; if the response is larger than this, please send it on CD only along with the hard copies of your submission (to the Bid Receiving Unit).

11. Submission of Responses

A) Time and Place for Submission of Responses: Suppliers interested in providing a response should deliver it to the following location by the time and date indicated on page 1 of this document.

B) Responsibility for Timely Delivery: Each respondent is solely responsible for ensuring its response is delivered on time to the correct location.

C) Identification of Response: Each respondent should ensure that its name and return address, the solicitation number and the closing date appear legibly on the outside of the response.

12. Volumetric Data

The data found at Annex A and Annex B is being provided to respondents purely for information purposes. Although it represents the best information currently available to PSPC, Canada does not guarantee that the data is complete or free from error.

13. Enquiries

Because this is not a bid solicitation, Canada will not necessarily respond to enquiries in writing or by circulating answers to all potential suppliers. However, respondents with questions regarding this RFI may direct their enquiries preferably before June 30th, 2017:

Name: Ankoor Patel
Title: Supply Specialist
Public Services and Procurement Canada
Procurement Branch
Space, Innovation, and Informatics Projects Directorate
Address: 11 Laurier Street, Gatineau, QC K1A 0S5 (Phase III, 4C2)
Telephone: 873-469-4970
Facsimile: 819-953-1207
E-mail: Ankoor.patel@tpsgc-pwgsc.gc.ca

A point of contact for the Respondent should be included in the package.

Changes to this RFI may occur and will be advertised on the Government Electronic Tendering System. Canada asks Respondents to visit Buyandsell.gc.ca regularly to check for changes, if any.

ANNEX C

FORMAT OF RESPONSE

As the purpose of this RFI is to solicit industry feedback with respect to the Department of National Defence (DND) requirements, respondents are invited to submit answers in response to the questions below. Respondents are encouraged to submit answers to as many questions as possible; however, the draft Statement of Work and the draft evaluation criteria should be taken into consideration when responding to questions.

1 - Please state any questions or concerns you may have about the draft Statement of Work.

2 - Would you be interested in submitting a bid to provide the work described in this RFI if released in a future RFP? What changes, if any, do you suggest that would enable your company to bid on a future RFP? What additional information would you need?

3 - Do you have any recommendations on the mandatory and rated criteria for evaluating bids, described in Annex B?

4 - Do you have a development strategy you could recommend? Indicate time and costs to build the Application?

5 - Please provide any other information that you believe would be useful in preparing an RFP for the work described in this RFI.

6 - Is there any additional technical information you would need in order to submit a complete bid?

7 - Can you design, assemble and deliver this Application, as detailed in the Statement of Work for a maximum dollar value of $11,500,000.00 exclusive of taxes?

8 - Can you provide annual Application maintenance and support as detailed in the Statement of Work for five years post-delivery for a maximum of $2,500,000.00 exclusive of tax?

9 - Can you design, assemble and deliver the Application as detailed in the Statement of Work within the following envelope:

- < $7,000,000
- > $7,000,000 to $9,000,000
- > $9,000,000 to $11,000,000.00
- > $11,000,000

ANNEX A

STATEMENT OF WORK

FOR THE

SEARCH AND RESCUE
MISSION MANAGEMENT SYSTEM
(SMMS) APPLICATION

TABLE OF CONTENTS

1. INTRODUCTION

The Department of National Defence (DND) requires the Contractor to design, assemble, deliver and support a Search and Rescue Mission Management System (SMMS) Application founded on open industry standards.

2. BACKGROUND

The original SMMS system was put into production in 2000 with the purpose of providing the Search And Rescue (SAR) coordinators the functionality to obtain current situational awareness of a SAR incident, determine the appropriate course of action and record all activities related to a SAR mission.

The SMMS Replacement Project was created to implement a new integrated SMMS WEB based application ("the Application"). The Project is comprised of two streams of work each with rather independent goals but both contributing to the success of the Application. The Environment Stream is focused on establishing the technical environment to support the Application. The Environment Stream is a DND/Shared Services Canada (SSC) responsibility. The Application Stream is focused on designing, assembling, delivering and supporting an Application which meets the requirements in the Contract. The Application Stream is the requirement for this Contract.

The Application is required to merge four central functionalities that must include:

- Case/Mission Management - The case/mission management role is focused on the recording of all activities, planned and executed, related to search and rescue missions;
- Command and Control (C2) - The C2 element of the Application is a Geographic Information System (GIS) based planning and coordination hub for the execution of search and rescue missions;
- Reporting – The Application must provide a number of preconfigured reports and the functionality to design, execute and save user defined reports; and
- Administration – Administration of data (spatial, user, external resources, etc.) must provide a controlled means of maintaining the application's data. Areas of administration will include, but are not limited to: User management (authentication and authorization); Spatial data management; External data source management; Joint Rescue Coordination Centres (JRCC) asset management both human and equipment; and Contact management.

3. OBJECTIVE

The objective of this requirement is to design, assemble, deliver and support an SMMS Application that provides a modern architecture that meets current and future needs of Search and Rescue (SAR) operational procedures. The Application must:

a) Provide support to the Search Mission Coordinators (SMC) in their role of Command and Control (C2) coordination of aeronautical and maritime SAR and support other humanitarian roles;

b) Be responsive to the Joint Rescue Coordination Centres (JRCCs) through the integration and incorporation of external, online systems;

c) Provide situational awareness of SAR cases; and

d) Provide an integrated and comprehensive means to effectively and efficiently pursue from start to finish aeronautical and maritime distress cases.

4. SCOPE OF WORK

The Contractor must provide a complete Application including all the Licenced Software [commercial off the shelf software (COTS), free and open-source software (FOSS), and custom software], required for the Application to function in accordance with this Contract.

4.1 Stages

The Contractor must perform the following Work, which is divided into the following four stages:

4.1-1 Design

The Design Stage must include documenting an integrated application design and identifying all software components, commercial and/or free and open-source software (FOSS) that will be employed in the assembly of the Application.

4.1-2 Assemble

The Assembly Stage must include:

- Assembling all components necessary in order to deliver the Application, which must meet the Requirements defined in Appendix 3; and
- Completing the Application Compliance and Acceptance Test.

4.1-3 Deliver

The Delivery Stage must include:

a) Training;

b) Installation of the Application on to DNDs Technical Environment;

c) Execution of a Pilot with a Subset of the SAR user community;

d) Updating the Application based on Pilot feedback;

e) Application Roll-out and User Migration; and

f) Final Acceptance.

4.1-4 Application Maintenance and Support

The Application Maintenance and Support Stage must include the Contractor providing Canada with Maintenance and Support Services for the Application during the Software

Support Period following the successful completion and acceptance of the Design, Assembly and Delivery stages of the Contract.

4.2 Requirement

4.2-1 Design Stage

The purpose of the Design Stage is to design the Application and choose the software components. The design of the Application and choice of software components is the responsibility of the Contractor.

a) The Contractor must incorporate the requirements of Appendix 3 when designing the Application. The Application must be:

   i. Efficient: minimizing the number of clicks and screen refreshes employed to achieve a task;

   ii. Clear: icons, titles, menu offerings, etc. employed in the interface must clearly convey their meaning.

   iii. Concise: prompts, hints, and help information must be succinct permitting users to quickly comprehend the meaning, thus maximizing the user's attention on the incident/mission as opposed to the idiosyncrasies of the application.

   iv. Familiar: the interface must capitalize on common, accepted Web application approaches/styles thus minimizing the learning curve and promoting user acceptance;

b) DND will validate and accept the documented integrated application design as described in the Application Architecture, including the software components selected by the Contractor (including commercial or Free and Open Source software) proposed to be employed in the assembly of the Application.

c) The GUI Mock-Up must be provided to DND for installation on DND's technical environment.

4.2-1.2 Design Stage Deliverables

The Contractor must provide the following Deliverables identified below as described in Appendix 5.

No	Deliverable
Design 1	Data Schema
Design 2	Data Dictionary
Design 3	Application Architecture
Design 4	Component Design
Design 5	Human Interface Design
Design 6	GUI Mock-Up

4.2-2 Assembly Stage

The purpose of the Assembly Stage is for the Contractor to assemble the Application in compliance with Appendix 3.

a) The Application must be assembled at the Contractor's facility. At this stage, DND will not install the Application on its' technical environment.

b) The Assembly Stage will be deemed complete when the Contractor has successfully completed the Application Compliance and Acceptance Test and the results of the test are accepted by Canada.

4.2-2.2 Application Compliance and Acceptance Test

a) Application Compliance and Acceptance Test (ACAT) will comprise of three Activities, performed on DND premises either using a remote connection to the Application or by notebook provided by the Contractor. The Contractor must successfully demonstrate the activities in order to deem the Application compliant.

i. Activity 1 - The Contractor must demonstrate to DND through the ACAT that each requirement identified in Appendix 3 has been met. In the event that a requirement is deemed not met by the DND, the Contractor must correct any deficiency in the Application and demonstrate to the satisfaction of the DND that the Application meets all the requirements as described in Appendix 3.

ii. Activity 2 - The Contractor must demonstrate, by following the steps of the three pre-defined scenarios (all steps related to an incident) drafted by DND and provided to the Contractor, that the Application can perform the work as defined in the three pre-defined scenarios. Each scenario will describe the activities associated with a typical SAR incident. This activity will be deemed met only when all the steps of the scenarios are performed and an export, as described in Appendix 3 – Requirements, of the scenarios is verified as chronologically complete. In the event that the export is not chronologically complete, the Contractor will be required to remedy the situation and repeat this activity.

iii. Activity 3 - The Contractor must demonstrate the Reporting functionality by generating the required reports, as identified in Appendix 3 – Requirements, based on the data input during the pre-defined scenarios activity.

4.2-2.3 Assembly Stage Deliverables

The Contractor must provide the Deliverables identified below as described in Appendix 5.

No	Deliverable
Assembly 1	Database Installation Script
Assembly 2	The Assembled SMMS Application
Assembly 3	Draft Quick Reference Card
Assembly 4	Draft User Reference Manual
Assembly 5	Draft Application Administration Manual
Assembly 6	Draft Application Installation Manual
Assembly 7	Application Compliance and Acceptance Test Report

4.2-3 Delivery Stage

The Contractor must deliver the Application to Canada. The Work in the Delivery Stage must include:

a) Training;

b) Installation of the Application onto DND's Technical Environment;

c) Execution of a Pilot with a Subset of the SAR user community;

d) Updating the Application based on Pilot feedback;

e) Application Roll-out and User Migration; and

f) Final Acceptance

4.2-3.2 Training

Train-the-trainer sessions

a) The Contractor must provide Train-the-trainer sessions to DND and Department of Fisheries and Oceans (DFO) SMMS trainers.

b) The Train-the-trainer activity is to be held on Coast Guard premises at the Canadian Coast Guard College in Sydney, Nova Scotia;

c) The trainers for the Train-the-trainer activity must have a minimum of two (2) years of experience in developing training materials for software applications, providing Train-the-Trainer training, and working with the client's training unit in developing training material.

d) Quick Reference Card and User Reference Manual, as accepted at the end of the Assembly Stage, must be available as background material to be used for the Train-the-Trainer sessions.

e) The Contractor must supply a functioning technical environment where the Application has been installed for Train-the-trainer sessions;

Trainers Coaching

f) The Contractor must coach the DND and DFO SMMS trainers in the best approach to delivering end user training.

g) The Contractor must provide to the SMMS/SAR training community suggestions, advice, and guidance on developing an effective course to migrate the existing SAR community's existing skills to the new Application.

h) All training materials must be provided in electronic format.

Online Training

i) The Contractor must provide an Online Training Course that meets the requirements detailed in Appendix 3. The course design must incorporate the Application's requirements to meet the specific needs of the existing SAR community and permit new SMCs to familiarize themselves with the SMMS Application.

4.2-3.3 Installation of the Application onto the DND's Technical Environment

a) At the initiation of this activity the Contractor must provide all the software licenses for any and all commercial components employed by the Application, including the software used to develop the online training course. The Contractor must provide seven (7) device licences for each commercial component. The device license must be unrestricted and not limited to the number of users and not limited to hardware, i.e., the number of CPUs or cores, or software configuration.

b) The Contractor must provide an Application Installation Manual, which must include detailed installation instructions. DND resources will install the Application onto DND's technical environment.

c) The Contractor must provide a resource on site to provide support during the installation process in the National Capital Region (NCR) in order to respond immediately to questions and provide clarification posed by the installation staff.

d) The Contractor must diagnose and remediate any issues that arise during the installation process that DND installation staff cannot resolve with the use of either the Application Installation Manual or the Application Administration Manual.

e) The Contractor must demonstrate that the delivered Application functions correctly by re-executing Activity 2 of the Application Compliance and Acceptance Test.

f) As detailed in Activity 3 of the Application Compliance and Acceptance Test, all required Reports identified in Appendix 3 must be generated following completion of Activity 2 of the Application Compliance and Acceptance Test.

g) The Application is deemed to be successfully installed when Canada determines that all three activities in the Application Compliance and Acceptance Test are successfully met.

h) After successful installation of the Application, the Contractor must update the Application Installation Manual and the Application Administration Manual based on any information gathered and generated during the installation process. The updates must include DND feedback.

4.2-3.4 Execution of a Pilot with a Subset of the SAR user community

DND will run a two-month Pilot at one JRCC or Maritime Rescue Sub-Centre (MRSC).

The Contractor must be on-site for the first two (2) weeks of the Pilot to provide guidance and support to the JRCC/MRSC personnel. The qualified resource provided must have an Information Technology (IT) background – a degree in computer science or equivalent – coupled with a minimum of two years installing and supporting web based applications. The qualified resource provided must have complete knowledge of the Application's functionalities.

a) The Contractor must gather feedback related to errors/bugs identified during the Pilot.

b) Corrections to the Application will not be permitted during the execution of the Pilot. In the event where a major error/bug (one that precludes the recording of or display of mission data) is detected, the Pilot will be rescheduled at the next earliest opportunity (based on DND availability and the Application issue(s) being appropriately addressed). If no major error/bug is detected, the Pilot will proceed to completion and all errors/bugs identified will be documented.

c) The Contractor must provide an Impact Analysis and a Schedule for Remediation one (1) week after the Pilot completion. The Contractor must review each proposed change to address the deficiencies identified during the Pilot with the DND project team.

4.2-3.5 Updating the Application based on Pilot feedback

a) The Contractor must, upon DND's approval and acceptance of the Impact Analysis and Schedule For Remediation, update the Application, addressing any and all errors/bugs identified during the Pilot.

b) The Contractor must demonstrate to DND through the Application that each error/bug identified has been successfully corrected by re-executing and meeting the requirements of Activity 2 and 3 of the Application Compliance and Acceptance Test.

c) On successful completion of this activity, the Application will be considered complete and ready for Application Roll-out and User Migration.

4.2-3.6 Application Roll-out and User Migration

Canada will roll-out the Application across the remaining JRCCs and MRSCs and to the respective user communities, one client site at a time. The Contractor must:

a) Be on-site at each user location (Esquimalt BC, Trenton ON, Quebec QC, Halifax NS, St. John's NL, excluding the site used for the Pilot) for the first two (2) weeks (considered 10 working days) of each roll-out to provide support services and gather feedback. The Contractor will then provide support services remotely to each roll-out site for an additional two (2) weeks;

b) Participate with the DND's administration and support team in monitoring and tuning (adjusting component configuration files) the Application to optimise Application performance; and

c) Compile and provide a detailed list of potential enhancements based on user feedback obtained during the execution of the site roll-out.

4.2-3.7 Final Acceptance

a) The Contractor will receive final acceptance of the Application when the following conditions are met:

   i. All documentation and courseware are delivered to Canada in electronic format;

   ii. The Application has been successfully rolled-out to all the JRCCs and MRSCs and the respective users have been migrated;

   iii. The Application Compliance and Acceptance Test has been successfully completed without any errors detected;

   iv. Documented errors/bugs in both the Application and associated user and training materials have been corrected; and

   v. A list of potential enhancements to the Application, acceptable to Canada, has been received.

4.2-3.8 Delivery Deliverables – The Contractor must provide the deliverables identified below as described in Appendix 5.

No.	Deliverable
Training	
Delivery 1	Quick Reference Card
Delivery 2	User Reference Manual
Delivery 3	Train-the- trainer sessions
Delivery 4	Trainers Coaching
Delivery 5	Online Training Course
Installation of the Application on DND's Technical Environment	
Delivery 6	Software Licences
Delivery 7	Application Installation Manual
Delivery 8	Application Administration Manual
Execution of a Pilot with a Subset of the SAR user community	
Delivery 9	Impact Analysis and Schedule for Remediation
Updating the Application based on Pilot feedback	
Delivery 10	Updated Application Incorporating All Agreed Corrections
Application Roll-out and User Migration	
Delivery 11	Delivered Application (Final Acceptance)
Delivery 12	Application Source Code
Delivery 13	List of Potential Enhancements

4.2-4 Training Environment

a) Canada will provide a training environment with the Application installed prior to Final Acceptance. The Contractor must modify the Application to meet specific training requirements as defined in Appendix 3 – Requirements.

4.2-5 Application Maintenance and Support

4.2-5.1 General

a) The Contractor must provide third tier support for the Application during the Application Maintenance andSupport Period.

b) The Contractor must provide to Canada access to the Contractor's personnel, to help Canada in answering questions with respect to the Application, during the hours of 06:00 to 18:00 EST/EDT, seven (7) days a week, 52 weeks a year.

c) Access to the Contractor's personnel will be initiated by DND via the online tracking system (Government Furnished) and could be followed up by either party by way of telephone, fax, e-mail and Internet access.

d) Canada will, by notice in writing to the Contractor, appoint a user representative or representatives who will be the only individual(s) entitled to access the Contractor's support services on behalf of Canada. Canada may change any such appointment by subsequent notice to the Contractor.

e) Third tier support is comprised of the following three categories:

i. Incident response;
ii. Updates; and
iii. Enhancements.

f) Support activities and trouble-shooting other then what is defined in the three categories above will be performed by DND.

4.2-5.2 Incident Response

a) An incident is defined as an unplanned interruption to the Application or a reduction in the quality of Application response.

b) The Contractor must provide twenty four hours a day, three hundred and sixty five days per year (24 x 365) incident response resolution.

c) Canada may report to the Contractor any failure of the Application to operate in accordance with Appendix 3 - Requirements during the Application Maintenance and Support Period. Canada will report Application Errors via the online tracking system (Government Furnished). Upon receipt of a report of a ApplicationError from Canada, the Contractor must provide Canada, within the time frames detailed in Severity 1 through Severity 4, with a correction to the Application Error that caused the Application not to operate in accordance with Appendix 3. The correction must to meet the Requirements detailed in Appendix 3 during the Application Maintenance and Support Period. The Contractor must use all reasonable efforts to provide permanent corrections for all Application Errors and the Contractor warrants that the Application will meet the Requirements set out in Appendix 3. All Application Error corrections will become part of the Application.

d) The Contractor must respond to a report of a Application Error in accordance with the severity of the Application Error, as detailed below. The severity will be reasonably determined by Canada, and communicated to the Contractor, based on the following definitions:

   i. "Severity 1": indicates total inability to use the Application, resulting in a critical impact on user objectives;

   ii. "Severity 2": indicates ability to use the Application but user operation is severely restricted;

   iii. "Severity 3": indicates ability to use the Application with limited functions which are not critical to overall user operations; and

   iv. "Severity 4": indicates that the problem has been by-passed or temporarily corrected and is not affecting user operations.

e) The Contractor must use reasonable efforts to correct Application Errors as follows:

   i. "Severity 1": within four (4) hours of notification by Canada;

   ii. "Severity 2": within twelve (12) hours of notification by Canada;

   iii. "Severity 3": within seven (7) days of notification by Canada; and

   iv. "Severity 4": within forty-five (45) days of notification by Canada.

f) If Canada reports a Application Error to the Contractor, Canada must give the Contractor reasonable access to the computer system on which the Application resides, and must provide information that the Contractor may reasonably require, including sample output and other diagnostic information, in order to permit the Contractor to expeditiously correct the Application Error.

g) The Contractor must provide DND a set of instructions to be followed by DND for the implementation of any updates to the Application. The solution to the Application Error

will be communicated via the online tracking system, which will be provided by DND. The Contractor must provide any required patches and associated installation instructions necessary to correct a Application Error.

h) If a process associated with system maintenance or administration or user processes are affected by the correction, all associated documentation, both online and hardcopy and training materials must be updated to describe the change.

i) The Contractor must provide quarterly Status Reports of all Application Errors received. The Report must be organized by incident number, its description, date received, status (resolved, on-going), and its resolution.

4.2-5.3 Software Components Updates/Patches

a) Every March and September during the Application Maintenance and Support Period, the Contractor must update the Application to employ the latest stable releases of all the Licenced Software components employed by the Application.

b) The Contractor must maintain the Application code conforming to all enhancements and patches made to any and all third party components (COTS, FOSS, and custom software) used by the Application.

c) The Contractor must provide notification of available application code changes in support of third party component updates.

d) The Contractor must provide DND electronic access to any updates and detailed instructions to install the update.

e) The Contractor will be informed via the online tracking system of any operating system or middleware updates that DND would like to implement. The Contractor must advise DND of any known issues related to the proposed update on the Application via the online tracking system.

f) DND will test the software update on the DND Test Environment. If the test fails, the Contractor must isolate and resolve the issue.

g) If affected, all associated documentation, both online and hardcopy, and training materials must be updated by the Contractor to describe any changes in operation or function of the Application.

4.2-5.4 Application Enhancements

a) DND may request enhancements to the SMMS application via the online tracking system. An enhancement is defined as a modification to existing functionality or implementation of a new functionality. Approved enhancements will be requested using the Additional Work Request (AWR) Process as described in Section 13.

4.2-5.5 Canada's responsibility

a) Unless stated otherwise in the Contract, Canada will provide and maintain a telephone line and Internet access in order for the Contractor to conduct Application Maintenance and Support Services. Canada will be responsible for the installation, maintenance and use of telephone and internet connections and associated charges. The Contractor may use the telephone line and electronic mail to provide Application Maintenance and Support Services.

b) Unless stated otherwise in the Contract, Canada will be responsible for the installation of all Software Error corrections and maintenance releases and upgrades.

c) Canada will implement back-up procedures to protect data from being lost.

5. DOCUMENTATION

a) The Contractor must supply all documentation identified in Appendix 5 (Deliverable Instructions) in both Official Languages (Canadian English and Canadian French).

b) All documentation provided to DND must conform to the Institute of Electrical and Electronics Engineers (IEEE) Standards for Software User Documentation.

c) The Contractor must submit all documentation in Canadian English and must be reviewed and accepted prior to Application Roll-out and User Migration. Once the Document is deemed acceptable, it must be translated to Canadian French.

d) The Contractor must provide an electronic copy of the appropriate documentation for review purposes as per the "Required by" dates in Appendix 5.

e) The document review process will take 2 weeks from the date of submission. If the document requires modifications then the Contractor will have 2 weeks to update and resubmit the document.

f) The Contractor has the option of providing the User Reference Manual as a separate document or implement it as the Application's online help system.

6. REPORTING

a) The Contractor must provide a monthly progress report identifying the achievements realized during the month covered, any issues raised but unresolved and any slippage in project delivery commitments.

7. PROJECT MANAGEMENT

a) The Contractor must provide resources to manage the Work specified in the Contract.

7.1 Kick-Off Meeting

a) A Kick-Off Meeting will take place one time within the first month following contract award. The Kick-Off Meeting will be held at either at the Contractor's facility or a DND/PSPC facility in the National Capital Region.

7.2 Progress Review Meetings:

a) Progress Review Meetings (PRM) must be held every 4 weeks until completion of the Delivery Stage of the Contract. The meetings must involve members of the DND SMMS Project Team and the appropriate personnel from the Contractor. The PRM must include a review of the efforts made from a project management perspective from the previous PRM to the current PRM. The frequency may be adjusted by the Technical Authority depending on the needs to track progress at different stages of the project.

Prior to each PRM the Contractor must provide, along with the agenda a written summary of the following:

i. Achievements met in the previous month;

ii. Identified issues;

iii. Outstanding Issues,

iv. Resolved Issues; and

v. Planned achievements for the following month.

b) The PRM must be brief and focus on providing a status of recent activities and issues without addressing detailed technical questions. The Contractor is responsible for preparing the agenda and publishing the minutes of the PRM. The agenda must be submitted to the Technical Authority at least two working days prior to the meeting. The minutes must be submitted to the Technical Authority no later than two (2) working days after the meeting. The agenda and minutes must be approved and accepted by the Technical Authority.

c) All meetings unless otherwise specified by the Technical Authority are to be held in the National Capital Region. The Contractor will not be reimbursed for any travel and living costs to attend these meetings.

7.3 **Ad-hoc Meetings:**

a) Ad-hoc meetings will be arranged on an as and when required basis.

7.4 **Ad-hoc Reporting**

a) Upon identification of an issue that may have a significant impact on the progress of the Project, the Contractor must advise the Technical Authority of the issue, including the impact on the Project, verbally or in writing within two (2) working days. Such problems must be identified to the Technical Authority when any of the following circumstances or situations arises:

i. A significant issue that may impact performance under the Contract;

ii. A significant managerial issue that may impact cost, schedule or the technical quality of the deliverables; or

iii. A schedule slippage for a milestone or a deliverable is anticipated.

b) A course of action must be identified, agreed upon and actioned by the next PRM.

7.5 **SMMS Application Representative**

a) The Contractor must identify an individual, referred to as the SMMS Application Representative, who will:

i. Act as the single point of contact and facilitate the exchange of any and all information between the SMMS Project Team and the Contractor for all activities within the scope of work of the Contract;

ii. Utilize the online tracking system (Government Furnished) for tracking the exchange of requests and responses; and

iii. Coordinate meetings, both ad-hoc and scheduled;

b) The Contractor representative must respond to all requests made by the DND during core hours (09:00 – 15:00 EST/EDT) within one hour of the request being entered into the online tracking system.

c) The Contractor must provide a decision to a request entered into the online tracking system within a maximum of forty-eight hours.

8. SCHEDULE

a) The Contractor must complete the design and assembly stages within 52 weeks of contract award.

b) The following table provides a high-level schedule:

	Title	Description	Start Date (week)	End Date (week)
1	Project Initiation	Kick-off meeting, Contractor logistics, etc.	1	4
2	Design Stage	Development of the data schema, data dictionary, application architecture, component design, human interface design.	5	16
2.1	GUI Mock-Up	Review of an HTML 5 compliant mock-up of the GUI design demonstrating the all design elements such as pop-ups, tool tips, fonts, etc.	16	16
3	Assembly Stage	Application is “assembled”, tested and ready for DND compliance testing and acceptance. Development of database installation script, draft quick reference card, draft user reference manual, draft application administration manual, draft application installation manual, application compliance and acceptance test report.	17	52
3.1	Assembly Stage – Application Compliance and Acceptance Test	All functionality identified in Appendix 3 – Requirements must be verified.	51	52
4	Delivery Stage	The Application must be installed, tested and rolled-out to the SAR user community.	53	104

	Title	Description	Start Date (week)	End Date (week)
4.1	Delivery Stage – Training	DND's trainers must be trained in the use of the Application, coached regarding migration of the existing SAR user community, and develop online training course.	53	60
4.2	Delivery Stage – Application Installation on DND's Technical Environment	The Application must be installed on the DND's technical environment following documented procedures and tests.	53	60
4.3	Delivery Stage – Execution of Pilot	A subset of the SAR user community at one of the five sites will be trained and transitioned to use the new Application. Application faults will be identified and corrected.	61	68
4.4	Delivery Stage – Updating Application based on Pilot Feedback	Application is updated and regression tested.	69	80
4.5	Delivery Stage – Application Roll-out and User Migration	Sequentially, each site will be trained, transitioned to the new Application and supported on-site. One month per site, three months overall.	81	96
4.6	Delivery Stage – Final Acceptance	Confirmation that all contractual obligations including all deliverables have been met.	97	104

c) Appendix 5 – Deliverable Instructions provides more details, includingdelivery due dates.

9. LANGUAGE OF WORK

a) All communication between the Contractor and DND must be done in English.

b) The Application's Graphical User Interface must be language selectable (Canadian English and Canadian French).

c) All user documentation must be provided by the Contractor to DND in bilingual format or in separate Canadian English or Canadian French formats.

d) All design and technical documentation must be provided by the Contractor to DND in Canadian English.

e) Meetings must be conducted in English.

10. GOVERNMENT FURNISHED INFORMATION

Canada will provide the Contractor with the following:

a) Spatial data covering Canada's Aeronautical and Marine SAR obligations including 160 km across the Canada/US border. The data provided in a database is detailed in Appendix 4;

b) A number of Web services providing access to live geospatial data, such as marine traffic, refer to section A4-2 Web Services - Appendix 4;

c) Centralized Authentication Service (CAS) that facilitates user authentication;

d) DND will provide Internet access to the spatial database, Web services and the Centralized Authentication Service (CAS) during the assembly stage;

e) General Incident Report Example;

f) Brief Incident Summary Example;

g) SAR Mission Report Master v5.2; and

h) An online tracking system.

11. APPLICABLE DOCUMENTS / STANDARDS

i. International Aeronautical and Maritime Search and Rescue Manual (IAMSAR)

ii. Canadian Aeronautical and Maritime Search and Rescue Manual (CAMSAR)

iii. Open Geospatial Consortium (OGC) Standards\

iv. Open Geospatial Consortium (OGC) WEB Services

v. 1063-2001 IEEE Standards for Software User Documentation World Wide Web Consortium (W3C) HTML5

vi. 1063-2001 IEEE Standards for Software User Documentation

vii. Prediction of Sea Survival Time technical report[1]

viii. How to Estimate the Range and Bearing to a Flare which describes the Fist Method and the Clock Method[2]

12. LOCATION OF WORK AND TRAVEL

a) The Contractor will perform the Work primarily at the Contractor's facilities.

b) Kickoff Meeting will be held either at the Contractor's facility or a DND/PSPC facility in the National Capital Region at DND's discretion.

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[1] Tikuisis P. and Keefe A. (1996, February). *PREDICTION OF SEA SURVIVAL TIME*. Retrieved from http://www.dtic.mil/dtic/tr/fulltext/u2/a305730.pdf

[2] Falvey K. (2010, July 13). *How to Estimate the Range and Bearing to a Flare*. Retrieved from http://www.boatingmag.com/how-to/**how-to-estimate-range-and-bearing**-to-**flare**

c) Progress Review Meetings will be held at DND Facilities within the National Capital Region (NCR).

d) All Application Compliance and Acceptance Testing will be held at DND Facilities within the NCR.

e) Train the Trainer Sessions will be held at the Canadian Coast Guard College in Sydney, NS.

f) Pilot and Application Roll-out and User Migration will take place at the following locations: Esquimalt, BC; Trenton, ON; Quebec City, QC; Halifax, NS; and St. John's, NFLD.

g) The Contractor will not be reimbursed for any travel and living expense during the Design, Assembly and Delivery Stages. During the Application Maintenance and Support Stage, all travel and living expenses must have prior approval from the Technical Authority and will be reimbursed in accordance with the National Joint Council Travel Directive.

13. ADDITIONAL WORK REQUESTS (AWR)

13.1 When Canada requests design change or additional work:

a) The Project Authority will provide the Contracting Authority with a description of the design change or additional work in sufficient detail to allow the Contractor to provide the following information:

   i. Any impact of the design change or additional work on the requirement of the Contract;

   ii. A price breakdown of the cost (increase or decrease) associated with the implementation of the design change or the performance of the additional work – including travel and living expenses; and

   iii. A schedule to implement the design change or to perform the additional work and the impact on the contract delivery schedule.

b) The Contracting Authority will then forward this information to the Contractor.

c) The Contractor will return the completed form to the Contracting Authority for evaluation and negotiation. Once all parties reach agreement, all parties must sign the form in the appropriate signature blocks. This constitutes the written authorization for the Contractor to proceed with the work, and the Contract will be amended accordingly.

13.2 When the Contractor requests a design change or additional work:

a) The Contractor must provide the Contracting Authority with a request for a design change or additional work in sufficient detail for review by Canada;

b) The Contracting Authority will forward the request to the Technical Authority for review;

c) If Canada agrees that a design change or additional work is required, then the procedures detailed in paragraph (a) are to be followed; and

d) The Contracting Authority will inform the Contractor in writing if Canada determines that the design change or additional work is not required.

13.3 Approval

a) The Contractor must not proceed with any design change or additional work without the written authorization of the Contracting Authority. Any work performed without the Contracting Authority's written authorization will be considered outside the scope of the Contract and no payment will be made for such work.

13.4 Task Authorization (TA) - Additional Work Requirement

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

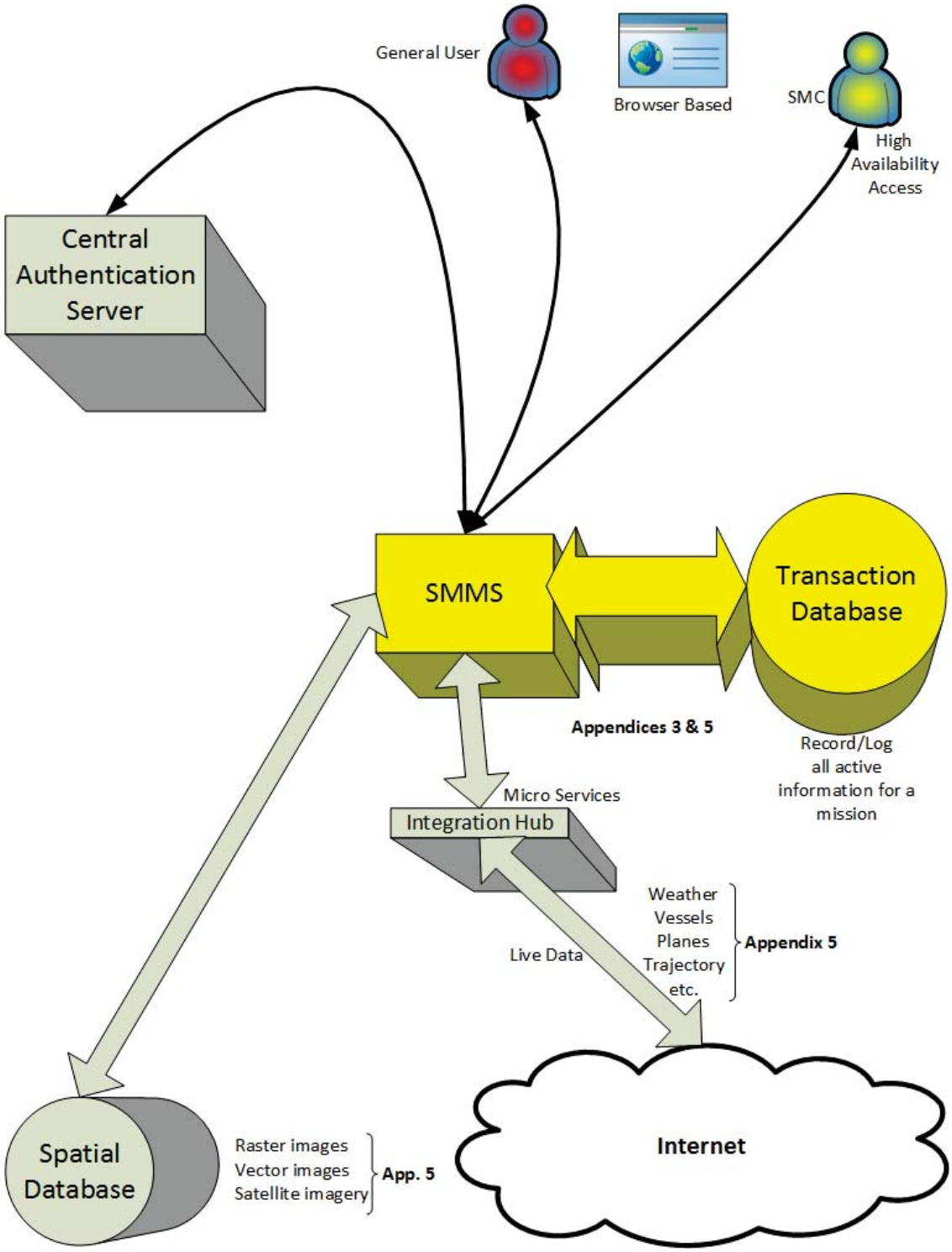
b) All travel and living expenses must have prior approval from the Technical Authority and will be reimbursed in accordance with the National Joint Council Travel Directive.

Appendix 1 to Annex A – Acronyms

AD	Applicable Documents
AWR	Additional Work Requests
C2	Command and Control
CAMSAR	Canadian Aeronautical and Maritime Search and Rescue Manual
CANSARP	Canadian Search and Rescue Planning Program
CAS	Centralized Authentication Service
CASARA	Civil Air Search and Rescue Association
CCG	Canadian Coast Guard
CF	Canadian Forces
CGA	Coast Guard Auxiliary
COSPAS-SARSAT	Cosmicheskaya Sistyema Poiska Avariynich Sudov, which means Space System for the Search of Vessels in Distress - Search and Rescue Satellite Aided Tracking
ddmmyyyy	Day month year
DND	Department of National Defence
DSHQ	Deployed Search Head Quarters
EPIRB	Emergency position- indicating radio beacons
ETA	Estimated Time of Arrival
FOSS	Free and open-source software
GIS	Geographic Information System
GMDSS	Global Maritime Distress and Safety System
HHMMZ	Hour Minute Zulu Time Zone
HTML5	HyperText Markup Language 5
IAMSAR	International Aeronautical and Maritime Search and Rescue Manual
IEEE	Institute of Electrical and Electronics Engineers
ISS	In-Service Support
JRCC	Joint Rescue Coordination Centre
Kts	Knots
Lat	Latitude
Long	Longitude

M	Minutes
M/Ft	Meters/Feet
METAR	Meteorological Terminal Aviation Routine Weather Report
MHz	Megahertz
MRSC	Maritime Rescue Sub-Centre
N/A	Not Applicable
NM	Nautical Miles
ODT	Open Desktop Format
OGC	Open Geospatial Consortium
OIC	Officer in Charge
PIREP	Pilot Report
PMO	Project Management Office
POB	Persons on board
PoC	Point of Contact
RCC	Rescue Coordination Centre
Reg #	Registration number
ROC	Regional Operations Centre
RSMS	Regional Supervisor of Maritime Search and Rescue
SAR	Search and Rescue
SAR Tech	Search and Rescue Technician
SLA	Service Level Agreement
SMC	Search Mission Coordinator
SMMS	Search and Rescue Mission Management System
SOP	Standard Operating Procedures
SOW	Statement of Work
SRU	Search and Rescue Unit
TAF	Terminal Aerodrome Forecast
VCR	Visitor Clearance Request
W3C	World Wide Web Consortium
Z	Zulu

Appendix 2 to Annex A – Functional Overview



Appendix 3 to Annex A – Requirements

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-1	**Application**			
A3-1.1	The Application must support both official languages of Canada, Canadian English and Canadian French.			
A3-1.2	The Application must allow the user to select the language of use that will become the default for the user on subsequent logins to the Application.			
A3-1.3	The Application must allow the user to switch between languages while remaining at the same location in the Application.			
A3-1.4	The Application must assign a unique identifier, referred to as an incident ID, to each incident.			
A3-1.5	The Application must record all data in the language it was entered.			
A3-1.6	The implementation of the Application must be as a WEB based solution.			
A3-1.7	The Application must be HTML 5 compliant.			
A3-1.8	The Application must adhere to IT open standards and must not incorporate vendor specific protocols.			
A3-1.9	The Application must utilize open source components, where such a product is available. When not available, the components utilized can be Commercial Off The Shelf (COTS).			
A3-1.10	The Application must appear to the end user as a single integrated Application where the user only enters data once.			
A3-1.11	The Application must run on servers employing the Linux operating system, on DND's virtualized environment.			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-1.12	The Application must operate simultaneously in two diverse locations, i.e., must be deployable in an active/active two (2) data centre environment.			
A3-1.13	The Application must support all guidelines including incident management, mission coordination, and related operational procedures set forth in the CAMSAR manual.			
A3-1.14	The Application must accommodate the input, editing, and searching of all data required to support all guidelines set forth in the CAMSAR manual.			
A3-1.15	The Application must enable the Administrator to define additional "fields," i.e. data elements, without the need to alter the Application's code.			
A3-1.16	The Application must incorporate the following incident states: Open, Active, More information required and Closed.			
A3-1.17	A closed incident must have comments/annotations functionality.			
A3-1.18	The Application must not allow the modification of closed incidents by a user other than the Administrator who can change an incident's status from closed to active.			
A3-1.19	The Application must determine a location (latitude/longitude coordinates) for a given identifier such as a town name, the name of a lake, postal code, etc.			
A3-1.20	The Application must accommodate the incorporation of new geospatial data by the Administrator without having to modify/reprogram the Application.			
A3-1.21	The Application must accept and display the Search and Rescue Satellite-Aided Tracking (COSPAS-SARSAT) data from the Canadian Mission Control Centre (CMCC) and the United States Mission Control Centre (USMCC) in accordance with COSPAS-SARSAT Mission Control Centres Standard Interface Description (C/S A.002) and the CMCC Concept of Operations.			
A3-1.22	The Application must integrate with the Joint Rescue Coordination Centre (JRCC) telephone management system.			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-1.23	The Application must include telephone integration that must:			
A3-1.23.1	Allow the initiation of phone calls by clicking on contacts' information within the Application.			
A3-1.23.2	Identify telephone numbers and provide the JRCC/MRSC user the option of having the Application dial the number.			
A3-1.23.3	Allow text messages to be sent to dialed phone numbers			
A3-1.23.4	Have the functionality to dial multiple telephone numbers simultaneously in order to broadcast messages and/or to page the phone call recipients			
A3-1.24	The Application must allow the user to add data to the incident including but not limited to, images, videos, telephone call recordings, audio, radio signals, COSPAS-SARSAT data, beacon registry data (current and planned), documents, facsimiles, scanned documents and e-mails to an incident record.			
A3-1.25	For beacons that operate at the 121.5 MHz frequency, the Application must provide the functionality as specified in the CAMSAR manual under ELT Searching Examples.			
A3-1.26	The Application must provide a search function where a user's query triggers the display of all incidents and stored data containing the words.			
A3-1.27	The Application must provide an alert mechanism that must alert the appropriate active JRCC/MRSC users in the event of a new SAR event occurring in their area of responsibility (AOR).			
A3-1.28	The Application must include an alert mechanism that must:			
A3-1.28.1	Present the alarm in a geographical context allowing a user to initiate/open a new incident based on the geographical information associated with the alarm.			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-1.28.2	Recognize which Centre (Esquimalt, Trenton, Quebec City, Halifax, and St. John's) is being targeted by the COSPAS-SARSAT data.			
A3-1.28.3	Include continuous visual effects and sounds until acknowledged by a user at the Centre in question.			
A3-1.28.4	Discontinue once a user has acknowledgement of the alert/alarm.			
A3-1.29	The Application must have the functionality to add or delete centres.			
A3-1.30	The Application must include a function that predicts the survival time of someone exposed to cold water based on the principles of the Prediction of Sea Survival Time technical report by Dr. Peter Tikuisis and Allan A. Keefe.			
A3-1.31	The Application must incorporate the functionality to estimate the range and bearing of a flare sighting based on the principles of The Fist Method and The Clock Method by Kevin Falvey.			
A3-1.32	The Application must generate a search area as per the Canadian Search Area Definition (CSAD) and the Mountain Visual Flight Rules defined in the CAMSAR Manual.			
A3-1.33	The Application must allow a user to graphically define a search area(s) and/or sub search area(s) (search area(s) within search area(s)) and identify the areas with user selectable colours and fill patterns.			
A3-1.34	The Application must provide the functionality to calculate the surface area (km^2, $mile^2$, nautical $mile^2$) of any drawn search area.			
A3-1.35	The Application must have the functionality to redefine a search or sub search area i.e. its size and colour.			
A3-1.36	The Application must generate a human readable version - a series of lat/long coordinates – of the search areas for distribution to the assigned search resource.			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-1.37	The Application's search function of resources must allow the user to select the most suitable SAR resources for the SAR task.			
A3-1.38	The Application must calculate the time for the selected resources to complete an assigned search task.			
A3-1.39	The Application must graphically distinguish tracked SAR resources/assets from all other tracked items. Auxiliary Coast Guard vessels must be further distinguishable.			
A3-1.40	Resource tracking fields must generate user selectable audible and visual alarms if a particular resource is not meeting its tasked timings.			
A3-1.41	For manually created incidents where data sources are not available, such as for canoeing incidents, the Application must provide drop down lists for identifying vessel/aircraft types. The Application must allow the Administrator to create and manage these lists both in text and image formats.			
A3-1.42	The Application must have map rendering functionalities that include, but are not limited to, thematic mapping, panning, map re-centering, map view refreshing, layer re-arranging, and map zooming.			
A3-1.43	The Application must measure and display distances (straight and multi leg route) and bearings (true and magnetic).			
A3-1.44	The Application must connect to Web Map Service (WMS) or Web Feature Service (WFS) systems to retrieve and display raster and vector reference maps.			
A3-1.45	The geospatial information being viewed must retain its centre point reference while the user is employing the zoom functionality.			
A3-1.46	The Application must display the current coordinates –lat/long – for the current position of the mouse pointer along with the elevation or depth– the information must be displayed at a convenient location along the edge of the map.			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-1.47	The Application must view geospatial data in 2-dimensions and 3-dimensions.			
A3-1.48	The Application must provide a search functionality, which displays a map of the entered search location. Search locations include city/town/village/landmark name, lat/long coordinates, an address/street intersection, or postal code.			
A3-1.49	The Application must support all data as outlined in Appendix 5 – Geospatial Data Sets.			
A3-1.50	The Application must respect the data visibility, i.e. it must not display data marked for government of Canada employees to any user other than a government of Canada employee.			
A3-1.51	Upon opening a new incident, the Application must display a base map and any additional layers defined in the users' profile.			
A3-1.52	The user must have the functionality to open, close, or reorder one or more layers as defined in Appendix 5 – Geospatial Data Sets.			
A3-1.53	The Application must have the functionality to incorporate new geospatial data (vector layers)			
A3-1.54	The Application must have the functionality to accept different forms of lat/long formats (degrees, minutes, seconds; decimal degrees, minutes, seconds; decimal degrees, decimal minutes; Universal Transverse Mercator - UTM), and convert them into decimal degrees.			
A3-1.55	The Application must allow the user to search for a vessel or an aircraft on the displayed map by entering its call sign, Maritime Mobile Service Identities (MMSI) number, name and/or its registration information.			
A3-1.56	The Application must have the functionality to display the historical tracks (up to 24 hours) of the vessels/aircraft.			
A3-1.57	The Application must automatically display the nearest airport and/or nearest marine station to the SAR incident.			

		Met (Y/N)	Initials: Contractor Representative	Initials: DND Representative
A3-1.58	The Application must automatically display the local weather information where the SAR Incident is.			
A3-1.59	The Application must identify all vessels, aircraft and point of interest in the SAR display area.			
A3-1.60	Related to the display of vessel, aircraft, and, points of interest, the Application must:			
A3-1.60.1	Display any available attribute data associated with a selected vessel, aircraft or point of interest.			
A3-1.60.2	Provide on request a list displaying all attribute data related to the objects currently displayed on the map.			
A3-1.60.3	Sort the list by a user selected column.			
A3-1.60.4	Identify on the map any item selected on the displayed list.			
A3-1.61	The Application must provide upon request any available information such as address and contact information of a location/point of interest/resource selected by the user on the map.			
A3-1.62	The Application must have the functionality to triangulate between marine tower locations to identify the bearings of vessel(s) in distress.			
A3-1.63	The Application must allow the user to determine the bearings of a SAR incident location from a user selected reference point on the map.			
A3-1.64	The Application must be allow the user to display the COSPAS-SARSAT satellites footprints within the Canadian AOR as a user selectable layer.			
A3-1.65	The Application must provide the functionality for the user to modify the level of transparency of a displayed map layer.			
A3-1.66	The Application must have the functionality for the user to add new locations to the map Gazetteer.			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-1.67	The Application must have the functionality to incorporate real time video feeds that include but are not limited to WEB cameras.			
A3-1.68	The Application must allow for an incident to accommodate situations in which multiple principles are involved (e.g. three ships involved in a collision – The Application must have the functionality to record information about all three ships).			
A3-1.69	The Application must have the time displayed and recorded in Zulu (GMT/UCT).			
A3-1.70	The Application must have the functionality to view the time in the user's local time.			
A3-1.71	The Application must identify/record the date and time when an incident is recognized as a SAR mission. An incident is recognized as a mission when resources have been tasked.			
A3-1.72	The Application must identify any and all medical information logged by an SMC in the incident, and must have the functionality to display it upon request.			
A3-1.73	The Application must list incident attachments, sorted by date and filtered by type (audio, text, email, etc.).			
A3-1.74	The Application must provide the functionality to access a URL contained in the attribute data associated with a selected item displayed on the map.			

A3-2 **Availability**

A3-2.1	The Application must be designed to operate without requiring any downtime.			
A3-2.2	In the case where the centre has lost connectivity with the Application, the browser must retain the latest incident information on screen.			
A3-2.3	The Application must have the functionality to notify users of the loss of data feeds or their re-instatement; data feeds are defined in Appendix 5 in the Web Services section.			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-3	**Accessibility**			
A3-3.1	User authentication must use the Government furnished Centralized Authentication Service (CAS). The CAS supplied information includes, but is not limited to: user name, organization (government of Canada employee or other), Application role.			
A3-3.2	The Application must support SAR individual incident types and priority levels as defined in the CAMSAR manual.			
A3-3.3	User authorization must be defined both at the individual incident type (Aeronautical, Marine, and Humanitarian) and/or priority level.			
A3-3.4	The Application must support user profiles where users can define preference including, but not limited to, language preference and default layers to be displayed when opening a new incident.			
A3-3.5	The Application must support both rights/authorizations pertaining to all incidents and/or be limited to one or more individual incidents.			
A3-3.6	Standard authorization roles must include:			
A3-3.6.1	Administrator – is the overall "super user" of the Application and has the functionality to modify privileges for user administrators, coordinators, observers and SAR resource crew, including the functionality to, but not limited to, create new user types and administer the system and its elements, and, modify geospatial datasets on request.			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-3.6.1.1	*The Application must allow the Administrator to define the refresh rate of each live feed.*			
A3-3.6.2	User Administrator – has the functionality to perform user management such as adding/deleting user accounts, modifying user authorization rights, etc. **Note:** this role must not have the right to create or modify Administrator or User Administrator privileges.			
A3-3.6.3	Coordinator – has the functionality to create, open, access, update and close an incident record.			
A3-3.6.4	Observer – is restricted to view only rights in the Application.			
A3-3.6.5	SAR resource crew – is restricted to view only rights, with the exception of having the functionality to input post SAR mission reports.			

A3-4 User Interface:

A3-4.1	The spatial portion of the user interface must be the central element where users must have the functionality to perform the majority if not all incident related activities including, but not limited to: visualize all aspects of the incident (mission), obtain/query information related to displayed features, input information.			
A3-4.2	The Application's interface design and approach must be consistent and universally applied.			
A3-4.3	The Application must have an "undo" function so that users can easily reverse a mistaken action.			
A3-4.4	The Application must have the functionality to allow multiple users to simultaneously access and enter data into the same incident.			
A3-4.5	The incident data login and recording functionality must:			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-4.5.1	Synchronize automatically the displayed incident information across all active browsers, i.e. for all users currently accessing an active incident, the Application must maintain a consistent view.			
A3-4.5.2	Ensure all data entered is accurately time stamped.			
A3-4.5.3	Allow for the user to have a current view when opening an active incident			
A3-4.6	The Application must allow a user to access and update multiple incidents at a time.			
A3-4.7	The Application must support the copying/pasting and dragging/dropping of information.			
A3-4.8	The Application must provide tool-tips for its interface. Users must have the functionality to enable/disable this feature.			
A3-4.9	By pushing CTRL Q simultaneously on the keyboard, the Application must allow the user to enter data into an incident log.			
A3-4.10	The Application must have spell check functionality in Canadian English and Canadian French with selectable autocorrect.			
A3-4.11	The Application must uniquely identify on the display all data requirements that DND has flagged as mandatory.			
A3-4.12	The Application must uniquely identify on the display all data that DND has flagged protected.			

A3-5 **Change Log:**

A3-5.1	The Application must maintain a change log that tracks all changes to an incident record. A new entry into an incident record is not considered a change.			
A3-5.2	A record within the change log must include the date and time of the change, User Name (account) that made the change, original value, new (replacement) value, and incident ID.			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-5.3	The Application must include a change log management functionality including a means of archiving records.			

A3-6 **Closed Incident File Export:**

A3-6.1	The Application must provide the functionality to export a closed incident file.			
A3-6.2	The export must be packaged in such a fashion as to be viewable via a browser.			
A3-6.3	The export must be HTML 5 compliant.			
A3-6.4	Export data must be formatted as non-changeable (read only).			
A3-6.5	The export package must contain all data related to the incident.			
A3-6.6	The export package must present the information in chronological order.			

A3-7 **Messaging/Chat**

A3-7.1	The Application must provide a messaging function that allows the users to "chat" within the Application.			
A3-7.2	Users must have the functionality to activate or deactivate their participation in chat sessions.			
A3-7.3	All chat entries must be time stamped and recorded in the incident.			
A3-7.4	The message/chat functionality must facilitate the following three (3) scenarios:			
A3-7.4.1	A chat session established automatically for sole use within an incident. All users accessing an incident must have the functionality to review the chat history and participate in the chat.			
A3-7.4.2	A topic specific chat session where users can be invited to participate.			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-7.4.3	A general chat session where all users can view and make comments and suggestions related to the SMMS application as well as the SAR service. Further, this session could be used to facilitate the general dissemination of information within the SAR community.			

A3-8 Closed Incident Management:

A3-8.1	At the discretion of the "Administrator", the Application must allow closed incidents to be archived as a means of managing the active system.			
A3-8.2	If an incident has been archived, the Application must record that it has been archived.			
A3-8.3	The Application's search function must extend to archived incidents.			
A3-8.4	Archived incidents must be accessible from the Application.			
A3-8.5	The Application must support the export of an archived incident.			

A3-9 External Online Data Sources:

A3-9.1	The Application must provide authorized users with the functionality to add, remove or modify access to external online data sources through the Application.			
A3-9.2	The Application must have the functionality where the User Interface automatically adapts to changes of external online data sources.			
A3-9.3	Any changes to external online data sources (adds, deletes, and modifications) must be logged.			

A3-10 SAR Resource Management

A3-10.1	The Application must include a SAR resource data management function that accurately tracks all assets assigned to the Aeronautical and Marine SAR community.			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-10.2	The Application must provide a means (privilege/right/authorization) to control access to the SAR Resource Management function.			
A3-10.3	The Application must allow for authorized users to add, or modify records for assets which the JRCC/MRSC has tactical control.			
A3-10.4	The Application must have the functionality where all SAR resource management changes must be logged in the Change Log.			
A3-10.5	A SAR resource management resource record must not be deleted. As an alternative, the Application must mark any records no longer required as "retired." Retired resources must not be removed from current and past incident records.			
A3-10.6	The Application must support appropriate information fields for each SAR resource management record type (human or equipment) as defined below:			
A3-10.6.1	Human: Name, location, contact information (including contact information of the home squadron/station), role(s) and skills.			
A3-10.6.2	Equipment: resource id, tail number, capability (range, speed and cargo/passenger capacity), location, designation (primary, secondary) and contact information (including contact information of the home squadron/station/port).			
A3-10.7	The Application must allow a user to view the history of activity associated with any SAR resource, both human and equipment.			
A3-10.8	The Application must have the functionality for all SAR resource management records to include a current status marker, such as, active, available, tasked, on standby (30 min, 60 min, 2hr, and user defined), anchored, unavailable and unserviceable.			
A3-10.9	The Application must allow the user to add comments to the SAR resource management record status marker.			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-11	**Contact Management**			
A3-11.1	The Application must integrate via an Application Programming Interface (API) to a DND operated Contact Management System			
A3-11.2	The Application must, for authorized users, facilitate the addition, deletion and update of contact records.			
A3-11.3	The Application must facilitate the searching of the Contact Management System by various categories including, but not limited to: name, telephone number, company.			
A3-11.4	All contact management changes must be logged in the Change Log.			
A3-12	**Temporary Resource records:**			
A3-12.1	The Application must have the functionality to create temporary incident specific resource records (human and/or equipment) to track activities related to a resource's participation in the incident. These records represent assets belonging to other organizations (public or private, national or international – e.g. "vessels of opportunity").			
A3-12.2	These records are specific to an incident and must only be visible to that incident.			
A3-13	**Reports**			
A3-13.1	The Application must generate reports for both public and private consumption. Reports identified for private consumption must include the relevant protected fields while the public versions must not.			
A3-13.2	The Application must provide the following reports:			
A3-13.2.1	Daily SAR Summary - CH8 Appendix B.05 from CAMSAR 2014 Vol 2			

		Met (Y/N)	Initials: Contractor Representative	Initials: DND Representative
A3-13.2.2	Initial JRCC SAR SITREP - CH8 Appendix B.01 from CAMSAR 2014 Vol 2			
A3-13.2.3	Initial Missing Aircraft Notice (MANOT) - CH8 Appendix A.01 from CAMSAR 2014 Vol 2			
A3-13.2.4	UNSAR Message - CH8 Appendix B.4 from CAMSAR 2014 Vol 2			
A3-13.2.5	SRU Briefing Report - VOL III, CH4 Appendix A.1 / A.2 / A.3 from CAMSAR 2014			
A3-13.2.6	General Incident Summary – Sample report provided as part of Government Furnished Information.			
A3-13.2.7	Brief Incident Summary - Sample report provided as part of Government Furnished Information.			
A3-13.3	The Application must allow the SAR resource crew to complete the SAR Mission Report (SARMIS), which is a post mission report. The SAR Mission Report Master v5.2 is provided as part of Government Furnished Information.			
A3-13.4	The Application must provide a function for the user to create/generate reports and to export data into different formats, delimited text file and MS Excel to allow users to create additional reports (ad hoc reports/statistics).			

A3-14 Training

A3-14.1	The Contractor must provide an on-line training course that must lead the student through the features of the Application by following a realistic scenario, thus associating a practical context with the features of the Application.			
A3-14.2	The on-line training course must:			
A3-14.2.1	Allow the student to navigate independently through the course.			
A3-14.2.2	Allow the student the opportunity to review specific features of the Application.			

			Initials	
		Met (Y/N)	**Contractor Representative**	**DND Representative**
A3-14.2.3	Include both Canadian English and Canadian French versions.			
A3-14.2.4	Be a browser-based application.			
A3-14.2.5	Be HTML 5 compliant.			
A3-14.2.6	Adhere to the Sharable Content Object Reference Model (SCORM).			
A3-14.3	The Application must include user friendly and seamless import/export functionality to allow for the exporting of a completed mission from the productive system and importing it into the training system.			
A3-14.4	The version of the Application that is deployed for training must provide the means for the Administrator or delegate to "clean up" the system, i.e. remove completely any or all practice incidents entered/created by students.			
A3-14.5	The version of the Application that is deployed for training must have the functionality to employ the "live" data input recorded in a copied incident as input to a training incident.			
A3-14.6	The version of the Application that is deployed for training must have the functionality to "replay" an incident's "live" data input at the rate recorded in the incident log. Further, the "replay" rate must be user selectable; supporting multiple accelerated rates, such as 2x, 4x, 8x …			
A3-14.7	The version of the Application that is deployed for training must display the time that reflects the replay rate selected by the student. This time must be used/referenced by the trainers to coordinate mission activities such as telephone calls and new information feeds for the training incident.			

Activity 2 - Application Compliance and Acceptance Test (Assembly Stage)

The Application must successfully execute predefined scenario #1.			
The Application must successfully execute predefined scenario #2.			

		Initials	
	Met (Y/N)	**Contractor Representative**	**DND Representative**
The Application must successfully execute predefined scenario #3			

Activity 3 - Application Compliance and Accept Test (Assembly Stage)

The Application must provide the following reports:			
Daily SAR Summary			
Initial JRCC SAR SITREP			
Initial Missing Aircraft Notice			
UNSAR Message			
SRU Briefing Report			
General Incident Summary			
Brief Incident Summary			
SAR Mission Report			
The Application must provide a functionality for the user to create/generate reports and to export data into different formats, delimited text file and MS Excel to allow users to create additional reports (ad hoc reports/statistics).			

Activity 2 - Application Compliance and Acceptance Test (Delivery Stage – Installation of the Application onto the DND Technical Environment)

The Application must successfully execute predefined scenario #1.			
The Application must successfully execute predefined scenario #2.			
The Application must successfully execute predefined scenario #3			

		Initials	
	Met (Y/N)	**Contractor Representative**	**DND Representative**

Activity 3 - Application Compliance and Acceptance Test (Delivery Stage – Installation of the Application onto the DND Technical Environment)

The Application must provide the following reports:			
Daily SAR Summary			
Initial JRCC SAR SITREP			
Initial Missing Aircraft Notice			
UNSAR Message			
SRU Briefing Report			
General Incident Summary			
Brief Incident Summary			
SAR Mission Report			
The Application must provide a functionality for the user to create/generate reports and to export data into different formats, delimited text file and MS Excel to allow users to create additional reports (ad hoc reports/statistics).			

Activity 2 - Application Compliance and Acceptance Test (Delivery Stage – Updating Application based on Pilot feedback)

The Application must successfully execute predefined scenario #1.			
The Application must successfully execute predefined scenario #2.			
The Application must successfully execute predefined scenario #3.			

		Initials	
	Met (Y/N)	**Contractor Representative**	**DND Representative**

Activity 3- Application Compliance and Acceptance Test (Delivery Stage – Updating Application based on Pilot feedback)

The Application must provide the following reports:			
Daily SAR Summary			
Initial JRCC SAR SITREP			
Initial Missing Aircraft Notice			
UNSAR Message			
SRU Briefing Report			
General Incident Summary			
Brief Incident Summary			
SAR Mission Report			
The Application must provide a functionality for the user to create/generate reports and to export data into different formats, delimited text file and MS Excel to allow users to create additional reports (ad hoc reports/statistics).			

SIGNATURES

Contractor Representative	**Date**
DND Representative	**Date**

Appendix 4 to Annex A – Geospatial Datasets

Note: The geospatial datasets listed below will be in WGS-84 coordination system

A4-1.1 The Application must have the functionality to display georeferenced vector and raster data as described in the following table A4-1.

A4-1.2 The Application must have the functionality to display non-GIS formatted data as described in the following table A4-1.

A4-1 Geospatial Data Layers

	Map Data	Coverage	Vector/Raster	Description
1.	Topographic map(s)	Canada USA (400km inside US territory along the border)	Vector	This layer will include but not limited to: • Cities • Roads/streets • Highways • Rivers • Lakes • Terrain contours • Buildings • Railways • Airports • Wetland • Vegetation • Parks • Provinces & Territories • Landmarks
2.	Canada DEM	Canada	Raster	A Digital Elevation Model (DEM) of Canada. A 3D representation of a terrain's surface, this format consists of a raster grid of regularly spaced elevation values derived from the cartographic information.
3.	US DEM	400km inside US territory along the border	Raster	A Digital Elevation Model (DEM) of U.S.A.
4.	Satellite Imagery	Canada USA (400km inside US territory along the border)	Raster	A raster image from a satellite (GeoEye, IKONOS, Quickbird, etc.)

	Map Data	Coverage	Vector/Raster	Description
5.	Campsites	Canada	Vector	Locations of various campsites across Canada
6.	Cabins, Marinas & Lodges	Canada	Vector	Locations of various cabins, marinas and lodges across Canada
7.	Bridges (gates, locks, canals)	Canada	Vector	List of all the bridges including gates, locks and canals in Canada
8.	NAV Aids	Canada	Non GIS format	Contains information such as buoys, lighthouses, fog signals, beacons and aids to navigation (air and water)
9.	Glaciers & Ice Charts	Canada	Non GIS Format	Glaciers & Ice charts provide the most accurate and timely information about ice in Canada's navigable waters
10.	Coastal Stations (including CG SAR Stations)	Canada USA (400km inside US territory along the border)	Vector	Coastguard stations across Canada and U.S.A.
11.	Cell Tower Locations	Canada	Vector	Location and other technical information of cell towers in Canada.
12.	SRR Boundaries	Canada World	Vector	Boundary layer for various SRR coverages. • JRCC Victoria • JRCC Halifax • JRCC Trenton • MRSC St. Johns • MRSC Quebec • World
13.	Postal Code Address Data	Canada	Vector	Geographical boundaries of postal codes.
14.	Aeronautical Charts	Canada	Non-GIS format Vector Raster	Pilots for flight planning and navigation use aeronautical Charts. With these charts and other tools, pilots can determine their position, safe altitude, best route, navigational aids, emergency landing areas, and other useful information, such as radio frequencies and airspace boundaries.
15.	Maritime Charts (Nautical Charts)	Canada USA (400km inside US territory along the border)	Non-GIS format Vector Raster	Provides descriptions and locations of external aids to navigation – lights, buoys, light stations, fog signals, and more – to help mariners navigate safely.

	Map Data	Coverage	Vector/Raster	Description
16.	Marine Communication Tower Locations (MCTS Centres)	Canada USA (400km inside US territory along the border)	Non-GIS format Vector Raster	Marine Communication Tower Locations across Canada and U.S.A.
17.	Canadian Airport Charts • GPH 205 - Canada Flight Supplement • GPH 206 - Enroute Low Altitude • GPH 207 - Enroute High Altitude	Canada USA	Non-GIS format Vector Raster	The data is designed to provide coordinators with location & contact information for air facilities in Canada & USA.
18.	Canadian Emergency Services	Canada	Vector	This layer consists of : • RCMP • Provincial Police • Municipal Police • Hospitals (Medical Facilities) • Medical Transfer Sites • Fire Stations • Hospital Helipads (GPH 205)
19.	Gazetteer	Canada USA	Database	A geographical dictionary of geospatial words or terms, with or without applicable feature geometries. The Gazetteer Service can be used to relate place names to stored geometry. The geometry is specific with respect to the coordinate reference system.
20.	CG/DND helipads	Canada	Vector	List of CG/DND helicopter landing pads across Canada.
21.	Canadian Vertical Obstructions	Canada	Vector	Provides a list of likely hazards to aviation safety.

A4-1.3 The Application must have the functionality to display live feed/tracking georeferenced data as described in the following table A4-2.

A4-2 Web Services

MicroService - Weather	Description
GetHistoricalWeather	Get historical weather by region and/or location
GetCurrentWeather	Get current weather by region and/or location
GetForcast	Get weather forecast by region and/or location
GetWindAndDirection	Get wind and wind direction by region and/or location
GetWeatherByAirport	Get historical weather by region and/or location

MicroService - Flight	Description
SearchFlightActivity	Search for a range of flight activity within a specific region and/or location
GetFlightDetails	Gets the current flight details for a specific flight
GetAllFlights	Gets all flight activity within a specific region and/or location
GetAllFlightsInByAirport	Gets all flight activity within a specific airport
GetFlightPath	Gets flight path for a specific airline
GetRegistryByAircraft	Gets registry information for a specific flight
GetHistoricalFlightInfo	Gets historical flight information for a specific flight

MicroService - Vessel	Description
SearchVessel	Search for a range of vessel activity within a specific region and/or location
GetVesselDetails	Gets the current vessel details for a specific vessel
GetAllVessels	Gets all vessel activity within a specific region and/or location

MicroService - Marine	Description
Marine	
GetTidalandCurrentsInformation	Gets current tide and current information by region
GetWaterTemperature	Gets water temperature by region
GetDriftModels	Gets drift model information by region (CANSARP)
GetAquacultureFacilities	Gets aquaculture facilities by region

MicroService - Beacon	Description
Beacon	
GetBeaconRegistryInformation	Gets beacon registry information

MicroService - CANSARP	Description
TransmitMarineIncidentData	Integrating with CANSARP, transmit incident details to CANSARP
MicroService - CMCC	**Description**
GetCMCCSARIncidentInformation	Receive COSPAS-SARSAT data from CMCC in accordance with COSPAS-SARSAT Mission Control Centres Standard Interface Description (C/S A.002) and CMCC Concept of Operations
GetUSMCCSARIncidentInformation	Receive COSPAS-SARSAT data from USMCC in accordance with COSPAS-SARSAT Mission Control Centres Standard Interface Description (C/S A.002) and CMCC Concept of Operations

MicroService – Satellite & GPS	Description
GetSARsatelliteFootPrint	Gets all SAR satellite footprints in the Canadian AOR
GetGPSAlerts	Gets the location of a GPS alert.

MicroService – SystemHeartbeat	Description
GetSystemHeartBeat	Gets the information about microservices – active or inactive status.

Appendix 5 to Annex A – Deliverable Instructions

The Technical Authority is the recipient of all deliverables. The basis of all "Required by" dates is the Schedule detailed in the Statement of Work.

Open Document Format for Office Automation (ODF) is the format the Contractor must use for all word processing (text) documents, spreadsheets, presentations and graphics deliverables.

Design 1 – Data Schema

Description: The Data Schema documentation describes the physical implementation of the data model in the specific database management system.

Purpose: The Data Schema provides a reference tool for the support, maintenance, and, monitoring of the database.

Required by: Week 15.

Preparation Instructions – the content of the Data Schema must include if applicable, but not limited to:

- The database account which owns the schema;
- A listing of all tables and associated columns including:
  - A brief description of the table and its columns;
  - Any database keys, both primary and foreign;
  - Any specific constraints;
  - Any default column values; and
  - Associated data type for each column including length if appropriate.
- A listing of all database views including:
  - Purpose; and
  - Command to create the view.
- A listing of all indices implemented including:
  - Purpose; and
  - Names of the columns, in order, used by the index.

Design 2 – Data Dictionary

Description: The Data Dictionary documentation describes the logical data elements and their relationships.

Purpose: The Data Dictionary communicates specifications to the business community.

Required by: Week 15.

Preparation Instructions – the content of the Data Dictionary must include if applicable, but not limited to:

- A listing of all the data entities required by the Application, their descriptive name and a brief description of their purpose:
- For each entity a list of all associated attributes including:
  - The attributes descriptive name;
  - A brief description of the attributes; and
  - Any associated constraints, limitations, or, rules.
- A diagram depicting the relationships between all of the entities including a legend identifying the types of relationships. Further, each entity must show the attributes employed to support the relationships; and
- A listing describing each relationship between the entities.

Design 3 – Application Architecture

Description: The Application Architecture documentation contains the Application Architecture and explains the complete architectural design.

Purpose: The Application Architecture supports future enhancement planning.

Required by: Week 15.

Preparation Instructions – the content of the Application Architecture must include if applicable, but not limited to:

- An explanation of the functionality of the Application by dividing the Application into a number of sub Applications and then clearly explaining the workings of each sub Application and any associated interconnections.

Design 4 – Component Design

Description: The Component Design documentation describes all the components, their purpose, and, special configuration requirements employed by the Application.

Purpose: The Component Design supports future Application enhancement planning.

Required by: Week 15.

Preparation Instructions – the content of the Component Design must include if applicable, but not limited to:

- A list of the logical components and sub-components of the Application design;
- A description of the function of and functionality provided by each logical component;
- The software components selected to implement each logical component;
- Any specific component configuration settings; and
- The relationship and, if applicable, the protocols employed between the various components.

Design 5 – Human Interface Design

Description: The Human Interface Design documentation describes the Application's Human Interface, its goals, principles and style.

Purpose: The Human Interface Design supports future enhancement planning.

Required by: Week 14.

Preparation Instructions – the content of the Human Interface Design must include if applicable, but not limited to:

- A description of how each selected element (check boxes, buttons, sliders, etc.) is designed to ease human interaction and utilize common Web interface designs;
- Identification of the elements that will be incorporated into the GUI;
- A description of how each selected element meets principles of interaction ease as well as familiarity;
- A description of how the transition between pages/screens will be performed; and
- Diagrams/sketches of the elements selected.

Design 6 – GUI Mock-Up

Description: The GUI Mock-Up is a program that demonstrates the basic design and flow of the graphical user interface.

Purpose: The GUI Mock-up allows the users to provide feedback as to the usability and future acceptance of the Application.

Required by: Week 15.

Preparation Instructions – the content of the GUI Mock-Up must include if applicable, but not limited to:

- An HTML 5 compliant skeleton Application (Mock-Up) that permits a user to walk through the Application's GUI; and
- All elements of the GUI including but not limited to: pop-ups, flow, transitioning, tool-tips, etc.

Assembly 1 – Database Installation Script

Description: The Database Installation Script is an SQL script that, when executed, will create the Application's schema.

Purpose: The Database Installation Script enables DND to install the database schema used by the Application in preparation for implementing database backup and replication services.

Required by: Week 34.

Preparation Instructions – the content of the Database Installation Script must include if applicable, but not limited to:

- One or more SQL scripts that will, upon execution, create the Application's schema in the Contractor's selected database platform; and
- One or more SQL scripts that will, when executed, confirm/verify the correctness of the created schema.

Assembly 2 – The Assembled SMMS Application

Description: The Assembled SMMS Application is the functionally complete Application that incorporates all corrections identified in the Application Compliance and Acceptance Test.

Purpose: To have an agreed upon Application ready for installation on DND's infrastructure.

Required by: Week 50.

Preparation Instructions – the content of the Assembled SMMS Application must include if applicable, but not limited to:

- A functionally complete Application meeting all DND requirements identified in Appendix 3; and
- The Application must incorporate any corrections identified during the Application Compliance and Acceptance Test.

Assembly 3 – Draft Quick Reference Card

Description: The Draft Quick Reference Card provides a brief overview of the Application's functionalities and quick Application navigation guidance to the end user.

Purpose: The Draft Quick Reference Card provides DND an opportunity to comment on its usability.

Required by: Week 50.

Preparation Instructions – the content of the Draft Quick Reference Card must:

- Be legible on a double sided letter size sheet (when printed);
- Provide an overview of the graphical user interface; and
- Provide summary steps for core functionalities: incident management, navigation of the spatial interface, message/chat functionality, menu navigation, exporting an incident, opening and closing an incident.

Assembly 4 – Draft User Reference Manual

Description: The Draft User Reference Manual is an end user focused HTML 5 compliant manual that describes <u>all</u> the Application's functionalities.

Purpose: This on-line resource assists the user in mastering the Application.

Required by: Week 50.

Preparation Instructions – the content of the Draft User Reference Manual must include if applicable, but not limited to:

- The functionalities required to execute an incident;

- Instructions as step-by-step procedures;
- The purpose of the functionalities; and
- All the Application's functionalities.

Assembly 5 – Draft Application Administration Manual

Description: The Draft Application Administration Manual provides descriptions of all administration functions and maintenance activities.

Purpose: A tool to guide the Application Administrator to support and maintain the Application.

Required by: Week 50.

Preparation Instructions – the content of the Draft Application Administration Manual must include if applicable, but not limited to:

- An overview of the administrative or maintenance function;
- Guidance as to when the administrative or maintenance function should be used and on how to employ the function; and
- Step-by-step instructions for each administrative or maintenance function.

Assembly 6 – Draft Application Installation Manual

Description: The Draft Application Installation Manual documents the steps required to install the Application and its sub components.

Purpose: To guide DND in the Application installation process.

Required by: Week 45.

Preparation Instructions – the content of the Draft Application Installation Manual must include if applicable, but not limited to:

- An overview of the installation process;
- A step-by-step process for the installation of each component of the Application including any specific configuration requirements;
- A step-by-step process to test and validate the installation of each component; and
- A step-by-step process to test and validate the installation of the Application.

Assembly 7 – Application Compliance and Acceptance Test Report

Description: The Application Compliance and Acceptance Test Report is a document signed by both DND and the Contractor indicating both parties agree the Application meets the requirements identified in the Contract.

Purpose: Verification that the Application meets all the requirements identified in Appendix 3 and is useable for the mandated purpose by successfully executing all the activities of the Application Compliance and Acceptance Test.

Required by: Week 51.

Preparation Instructions – the content of the Application Compliance and Acceptance Test Report must include if applicable, but not limited to:

- Activity 1 of the Application Compliance and Acceptance Test Report: A list of all the requirements identified in Appendix 3 with an indicator in the appropriate column of either being met or not met with both the Contractor's and DND's initials;
- Activity 2 of the Application Compliance and Acceptance Test Report: A list of the three pre-defined scenarios in Activity 2 of the Application Compliance and Acceptance Test with an indicator of either being met or not met and initialed by both parties;
- Activity 3 of the Application Compliance and Acceptance Test Report: A list of the reports identified in Appendix 3 with an indicator of met or not met and initialed by both parties; and
- Signatures of both parties along with the date signed.

Delivery 1 –Quick Reference Card

Description: The Quick Reference Card provides a brief overview of the Application's functionalities.

Purpose: To provide quick Application navigation guidance to the end user.

Required by: Week 57.

Preparation Instructions – the content of the Quick Reference Guide must:

- Be legible on a double sided letter size sheet (when printed);
- Provide an overview of the graphical user interface; and
- Provide summary steps for core functionality.

Delivery 2 – User Reference Manual

Description: An end user focused manual describing all the Application's functionalities

Purpose: To be an electronic resource to assist the user in mastering the Application.

Required by: Week 57.

Preparation Instructions – the content of the User Reference Manual must include if applicable, but not limited to:

- Present the functionalities required to execute an incident;
- Instructions as step-by-step procedures;
- The purpose of the functionalities; and
- All the Application's functionalities.

Delivery 3 – Train-the-trainer sessions

Description: These sessions are a train-the-trainer activity.

Purpose: Develop confidence, competence, and, knowledge of the SMMS Application in the DND training community.

Required by: Week 53.

Preparation Instructions – the content of the train-the-trainer sessions must include if applicable, but not limited to:

- Face-to-face training;
- Covering all functionalities of the Application; and
- An explanation of the purpose of each functional element in relation to the prosecution of a SAR incident.

Delivery 4 – Trainers Coaching

Description: Trainers Coaching consists of preparation activities for transitioning to the new Application.

Purpose: To guide and support the development of a means of migrating the existing JRCC/MRSC user communities, including their SAR skills and knowledge, to the new Application.

Required by: Week 58.

Preparation Instructions – the content of the Trainers Coaching must include if applicable, but not limited to:

- Providing an understanding of the functionalities of the existing tool;
- Providing guidance to the training community in matching the exiting tool's functionalities with that of the new Application; and
- Providing to the DND training team suggestions and recommendations as to the best approach of migrating the applicable user's skills to the new Application.

Delivery 5 – Online Training Course

Description: The Online Training Course is an SMMS training course for new users.

Purpose: An online tool to introduce new users to the purpose and functionalities of the SMMS Application.

Required by: Week 101.

Preparation Instructions – the content of the Online Training Course must include if applicable, but not limited to:

- All user focused functionalities;
- An explanation of the purpose of the functionalities in relation to prosecuting a SAR incident;
- A format that permits the user to both follow the course systematically and alternatively jump to the section where the specific functionality is described;
- Application "screens" as a means of providing clear information; and
- A record of course completion for a person; a person is considered to have completed the course when all of the course content has been viewed.

Delivery 6 – Software Licenses

Description: The Software Licenses required by the DND in order to continue operating the Application.

Purpose: Transfer required software licenses to the DND

Required by: Week 53.

Preparation Instructions – the content of the Software Licenses must include if applicable, but not limited to:

- Software licenses transferred to the GOC/DND; and
- Seven (7) licenses for each component.

Delivery 7 – Application Installation Manual

Description: The Application Installation Manual describes the steps required to install the Application and its sub components.

Purpose: To guide DND in the Application installation process.

Required by: Week 60.

Preparation Instructions – the content of the Application Installation Manual must include if applicable, but not limited to:

- An overview of the installation process;
- A step-by-step process for the installation of each component of the Application including any specific configuration requirements;
- A step-by-step process to test and validate the installation of each component; and
- A step-by-step process to test and validate the installation of the Application.

Delivery 8 – Application Administration Manual

Description: The Application Administration Manual describes all administration functions and maintenance activities.

Purpose: A tool to guide the Application Administrator to support and maintain the Application.

Required by: Week 60.

Preparation Instructions – the content of the Application Administration Manual must include if applicable, but not limited to:

- An overview of the administrative or maintenance function;

- Guidance as to when the administrative or maintenance function should be used and on how to employ the function; and
- Step-by-step instructions for each administrative or maintenance function.

Delivery 9 – Impact Analysis and Schedule for Remediation

Description: The Impact Analysis and Schedule for Remediation document is a compilation of all Application bugs, errors and deficiencies identified during the Pilot with a schedule for their remediation.

Purpose: Provides a detailed action plan to address all bugs, errors and deficiencies.

Required by: Week 68.

Preparation Instructions – the content of the Impact Analysis and Schedule for Remediation must include if applicable, but not limited to:

- A prioritized list of all bugs, errors, and, deficiencies identified during the Pilot; and
- The following information for each issue:
  - A title for each bug, error, and deficiency;
  - A description of the issue;
  - The cause of the issue;
  - Description of the steps to resolve the issue; and
  - The time required to implement the solution.

Delivery 10 – Updated Application Incorporating All Agreed Corrections

Description: The Updated Application Incorporating All Agreed Corrections is the functionally complete and corrected Application.

Purpose: The updated version of the Application to be installed to support Application Roll-out and User Migration.

Required by: Week 78.

Preparation Instructions – the content of the Updated Application Incorporating All Agreed Corrections must include if applicable, but not limited to

- A version of the Application that incorporates all identified corrections;
- A version of the Application that successfully completes the three pre-defined scenarios in Activity 2 of the Application Compliance and Acceptance Test; and

- A version of the Application that successfully generates all the reports identified in Appendix 3 (Activity 3 of the Application Compliance and Acceptance Test).

Delivery 11 – Delivered Application (Final Acceptance)

Description: The Delivered Application (Final Acceptance) document is a mutually (DND and Contractor) signed/dated document attesting to the fulfillment of all the Contract Deliverables.

Purpose: Confirmation that the Contractor has fulfilled its obligations, i.e. all deliverables identified in the Contract

Required by: Week 103.

Preparation Instructions – the content of the Delivered Application (Final Acceptance) must include if applicable, but not limited to:

- A signed and dated document by both parties that states that:
  - The Contractor has fulfilled all contractual obligations, including all deliverables;
  - All users have been successfully migrated; and
  - The Application is currently functioning correctly.

Delivery 12 – Application Source Code

Description: Source code is the version of software as it is originally *written* (i.e., typed into a computer) by a human in plain text (i.e., human readable alphanumeric characters).

Purpose: To enable the DND/CAF the ability to modify and enhance the Application to meet changing business requirements.

Required by: Week 100.

Preparation Instructions – the content of the Application Source Code must include if applicable, but not limited to:

- The source code, in electronic format, of the version implemented and currently in operation within the DND/CAF.
- A deployment guide/instructions including, but not limited to:

- Instructions for compiling the source code.
- Instructions for packaging the compiled code.
- Instructions for the deployment of the packed code into the technical environment.
- Documented unit test procedures.
- Instructions for the creation of a development environment.

Delivery 13 – List of Potential Enhancements

Description: The List of Potential Enhancements document is a list of user identified functional enhancements acknowledged during the Pilot and Roll-out of the Application.

Purpose: Present to the DND a list of optional enhancements.

Required by: Week 103.

Preparation Instructions – the content of the list of potential Enhancements must include if applicable, but not limited to:

- A list, in no specific order, of all identified enhancement; and
- The following for each list item:
  - A title;
  - A description of the enhancement;
  - A description of its benefits;
  - The time required to implement; and
  - A cost estimated for each item.

ANNEX "B"

EVALUATION CRITERIA

B-1 This Evaluation Criteria is divided into two separate Sections as follows:

Section 1: Mandatory Evaluation Criteria

Section 2: Rated Evaluation Criteria

B-2 Where experience is required within a stipulated time period, the period is calculated from the closing date of this solicitation.

B-3 Unless otherwise defined below, the terminology used in the Mandatory and Rated Evaluation Criteria shall be in accordance with Annex A - Statement of Work.

Definitions:

A project, as defined by the Project Management Institute (PMI), is temporary in that it has a defined beginning and end in time, and therefore defined scope and resources.

And a project is unique in that it is not a routine operation, but a specific set of operations designed to accomplish a singular goal.

WEB is used in this document to refer to the World Wide Web (W3), which is basically a system of Internet servers that support specially formatted documents. The documents are formatted in a markup language called HTML (Hypertext Markup Language) that supports links to other documents, as well as graphics, audio, and video files.

Hypertext Markup Language revision 5 (HTML5) is markup language for the structure and presentation of World Wide Web contents. HTML5 supports the traditional HTML and Extensible Hypertext Markup Language (XHTML)-style syntax and other new features in its markup, new Application Program Interfaces (APIs), XHTML and error handling. It is the fifth and current version of the HTML standard.

A geographic information system (GIS) is a system designed to capture, store, manipulate, analyze, manage, and present spatial or geographic data.

The word “employed” or “employing” in this document means “to make use of.” or “made use of”.

Commercial software is any software or program that is designed and developed for licensing or sale to end users or that serves a commercial purpose. Commercial software was once considered to be proprietary software, but now a number of free and open-source software applications are licensed or sold to end users.

Microsoft products such as the Windows Operating System and MS Office are some of the most well-known examples of commercial software.

Operating System-Neutral Application is an application written in a language which can run of virtually any type of computer (is 'platform and device independent').

Open-source software (OSS) is computer software with its source code made available with a license in which the copyright holder provides the rights to study, change, and distribute the software to anyone and for any purpose.

LibreOffice and the GNU Image Manipulation Program are examples of open source software.

Free and Open Source Software (FOSS) is software developed by informal collaborative networks of programmers. The source code is licensed free of charge, encouraging modifications and improvements.

The International Cosmicheskaya Sistyema Poiska Avariynich Sudov – Search and Rescue Satellite Aided Tracking (COSPAS-SARSAT) Programme is a treaty-based, non-profit, intergovernmental, humanitarian cooperative of 43 nations and agencies dedicated to detecting and locating radio beacons activated by persons, aircraft or vessels in distress, and forwarding this alert information to authorities that can take action for rescue. The system utilizes a network of satellites that provide coverage anywhere on Earth. Distress alerts are detected, located and forwarded to over 200 countries and territories at no cost to beacon owners or the receiving government agencies. COSPAS-SARSAT was conceived and initiated by Canada, France, the United States and the former Soviet Union in 1979.

Capability Maturity Model Integration (CMMI) is a process level improvement training and appraisal program. Administered by the CMMI Institute, a subsidiary of the Information Systems Audit and Control Association (ISACA), it was developed at Carnegie Mellon University (CMU).

SECTION 1: MANDATORY EVALUATION CRITERIA

M-1	**<u>Years in Business</u>** The Bidder must have carried on business as the same legal entity for a minimum of three (3) years. In case of a joint venture, each member of the joint venture must demonstrate the minimum three-year requirement.
	The Bidder must provide documented proof such as a Certificate of Incorporation, business registration or tax returns in its bid confirming the number of years it has been in business. If the Bidder has been incorporated or otherwise created less than three years before bid closing as the result of a corporate change under which it has in law assumed all of the assets, undertaking, operational capability, skills and resources of other legal entities, then Canada will consider the three year minimum requirement to be met if the Bidder demonstrates to Canada's satisfaction that: a. the Bidder has been incorporated or otherwise created as the result of a corporate change under which it has in law assumed all of the assets, undertaking, operational capability, skills and resources of other legal entities; b. each of the other legal entities carried on business, uninterrupted and in the normal course, for at least three years; c. the Bidder has carried on the business of all of the other legal entities in the normal course and uninterrupted from and after the date of the corporate change; d. the corporate change was solely for tax or other purposes unrelated to the business of the other legal entities and does not affect the ability of the Bidder to carry on the business that had been carried on by the other legal entities; and e. the Bidder, as at the date of bid closing, maintains the same assets, undertaking, operational capability, skills and resources as the other legal entities had maintained before the corporate change. In these circumstances, Canada may require from the Bidder an unqualified legal opinion from an independent law firm, at the Bidders expense, stating that the Bidder meets all of the above requirements. Canada reserves the right to require other details and material to verify that the above requirements are met. If Canada is not satisfied that the above requirements have been met, the Bidder's bid will be considered non-responsive. Canada reserves the right to request proof of any information provided by the Bidder. If the information cannot be validated, the Bidder's bid will be considered non-responsive.

M-2	**<u>WEB Application</u>** The Bidder must have experience successfully developing and deploying national interactive HTML5 WEB based applications.
	To demonstrate this experience, the Bidder must provide customer references for each project (minimum of two projects) the Bidder has successfully developed and deployed national interactive HTML5 WEB based applications servicing at least 1000 users. Each reference must include: a. Application name; b. Customer name and contact information (including the name and either the telephone number or e-mail address of the organization's contact responsible for the project; c. Start and end date of the project; d. Description of the project, specifically emphasizing the WEB elements (check boxes, buttons, sliders, etc.); e. Description of the interactive components used within the application; and f. User distribution by percentage by region.
M-3	**<u>Web GIS Application</u>** The Bidder must have experience developing and deploying Web GIS applications servicing a Canadian province, Canada or Internationally. A Web GIS application must employ standard GIS file format(s), common Web GIS tools, a spatial database and support WMS and WFS standards. Accepted standard file formats include: GEOJSON, KML, GML, GeoTIFF and ShapeFiles Accepted tools include: OpenLayers, Leaflet, Cesium, QGIS, ArcGIS, MapInfo, MapServer, GeoServer, Mapnik and ArcGIS Server. Accepted databases include: Oracle Spatial, SQL Server 2008 R2 and later, PostGIS (PostgreSQL), DB2 Spatial Extender, ArcSDE (RDBMS) and SpatiaLite.

	To demonstrate this experience, the Bidder must provide customer references for each application (minimum of two applications) the Bidder has developed and deployed. Each reference must include: a. Application name; b. Customer name and contact information (including the name and either the telephone number or e-mail address of the organization's contact responsible for the project; c. Description of the application, specifically emphasizing the following: File format(s) used; • Web GIS tools used; • Spatial database used; • Web GIS standard supported; and d. Region supported and approximate user population.
M-4	**<u>Operating System-Neutral Applications</u>** The Bidder must have experience developing and deploying operating system-neutral applications that execute on the Linux operating system and other operating systems.
	To demonstrate this experience, the Bidder must provide customer references for each application the Bidder has successfully developed and deployed operating system-neutral applications (minimum of three applications) as described above. Each reference must include: a. Application name; b. Customer name and contact information (including the name and either the telephone number or e-mail address) of the organization's contact responsible for each application; c. Description of development stack used to develop the application; and d. Description of the application, specifically emphasizing the number of servers employed, the name(s) of the operating system(s) used, and the Linux distribution used (if applicable).
M-5	**<u>Software Components</u>** The Bidder must identify all commercial and open source software components that the Bidder will integrate into the SMMS Application.
	The Bidder should identify the following for each software component: a. Software component name; and b. Commercial or open source.

SECTION 2: RATED EVALUATION CRITERIA

Each rated criterion will be evaluated by its weighted score. To arrive at the weighted score the criterion's score will be multiplied by its weight; e.g. the response to R1 is scored at three points. R1's weighted score will be three (3), its score, multiplied by three (3), its weight, for a weighted score of nine (9).

The following table provides the weights for each criterion.

Criterion	Weight		Score		Weighted score
R1	3	x		=	
R2	2	x		=	
R3	2	x		=	
R4	7	x		=	
R5	0.5	x		=	
R6	3	x		=	
R7	3	x		=	
R8	3	x		=	
R9	4	x		=	
R10	1	x		=	

R-1	**<u>Delivery Performance</u>** The Bidder should have experience completing contracts on time and on budget.
	To demonstrate this experience, the Bidder must provide customer references for each contract the Bidder has successfully completed as described above. Each reference must include: a. Project title; b. On budget (indicate by stating Yes or No) c. Date contract awarded d. Original contract end date; e. Date delivered; and f. Customer name and contact information (including the name and either the telephone number or e-mail address) of the organization's contact responsible for the contract;

	Scoring: (Max 5 pts) Five contracts — 5 points Four contracts — 4 points Three contracts — 3 points Two contracts — 2 points One contract — 1 point
R-2	**<u>Commercial Software Components</u>** The Bidder should identify the number of commercial software component(s) listed in the Bidders response to criterion M-5, which the Bidder will incorporate in the SMMS Application.
	Points will be awarded as follows:
	Scoring: (Max 5 points) Zero Commercial software components — 5 points One Commercial software component — 4 points Two Commercial software components — 3 points Three Commercial software components — 2 points Four Commercial software components — 1 points Five or more — 0 points

R-3	**<u>Similar Search and Rescue (SAR) Application</u>** The Bidder should have delivered a similar SAR application. A similar SAR application is one that merges the following four central functionalities: • Case/Mission Management – The case/mission management role is focused on the recording of all activities, planned and executed, related to search and rescue missions; • Command and Control (C2) – The C2 element of the application is a Geographic Information System (GIS) based planning and coordination hub for the execution of search and rescue missions; • Reporting – The application must provide a number of preconfigured reports and the functionality to design, execute and save user defined reports; and • Administration – Administration of data (spatial, user, external resources, etc.) must provide a controlled means of maintaining the application's data. Areas of administration will include, but are not limited to: User management (authentication and authorization); Spatial data management; External data source management; Rescue Coordination Centre (RCC) asset management both human and equipment; and Contact management.
	To demonstrate the above, the Bidder should provide the following information for each SAR application: a. Customer name and contact information (including the name and either the telephone number or e-mail address of the organization's contact responsible for the contract; b. Customer contract number; c. Delivery date of the application; and d. Description of the application including details of the four central functionalities included in the Bidders contract with the customer.
	Scoring: (Max 4 points) Zero Applications — 0 points One Application — 1 points Two Applications — 2 points Three Applications — 3 points Four or more — 4 points

R-4	**<u>International COSPAS-SARSAT Programme</u>** The Bidder should demonstrate involvement/participation in a task group or working group of the COSPAS-SARSAT programme.
	To demonstrate the above, the following information is required: a. An official document bearing the COSPAS-SARSAT programme's letterhead indicating that the Bidder is involved with or has participated in the programme.
	Scoring: (Max 1 points) One or more documents 1 points
R-5	**<u>Free Open-source software experience</u>** The Bidder should demonstrate knowledge of and experience using Free Open-source software (FOSS).
	To demonstrate the above, the Bidder must provide the following information for each project or application developed: a. Name of the application developed by the Bidder or project where FOSS components were employed; b. A list of the FOSS components employed in the project or included in the application; c. Identification of the type/category of the FOSS component (Database, WEB, GIS, etc.); d. Project title; e. Date of development and deployment; and f. Customer name and contact information (including the name and either the telephone number or e-mail address of the organization's contact responsible for the project or application developed.
	Scoring: (Max 20 points) Number of <u>unique</u> FOSS components employed 1 point per component

R-6	**<u>WEB GIS</u>** The Bidder should demonstrate knowledge of and experience with developing and deploying WEB GIS applications.
	To demonstrate the above, the Bidder must provide the following for each application: a. Application description emphasizing the WEB GIS functionality; b. Date of development and deployment; and c. Customer name and contact information (including the name and either the telephone number or e-mail address of the organization's contact responsible for the WEB GIS application..
	Scoring: (Max 3 points) Three application — 1 points Four applications — 2 points Five or more — 3 points
R-7	**<u>Case/Mission Management</u>** The Bidder should demonstrate experience implementing or operating a case/mission management application.
	To demonstrate the above, the Bidder must provide the following for each installed application: a. Software employed; b. Purpose of the implementation; and c. Customer name and contact information (including the name and either the telephone number or e-mail address of the organization's contact responsible for the application
	Scoring: (Max 3 points) One application — 1 points Two applications — 2 points Three or more — 3 points
R-8	**Command and Control (C2)** The Bidder should demonstrate experience in developing and deploying C2 applications.

	To demonstrate the above, the Bidder must provide the following for each installation of the application: a. Application description emphasizing the C2 functionality; and b. Customer name and contact information (including the name and either the telephone number or e-mail address of the organization's contact responsible for the C2 application.
	Scoring: (Max 3 points) One application — 1 points Two applications — 2 points Three or more — 3 points
R-9	**<u>3rd Tier Application Support</u>** The Bidder should demonstrate a minimum of two (2) years of experience delivering 3rd tier application support to customers for which an application was developed and deployed.
	To demonstrate the above, the Bidder must provide the following for each application supported: a. Application title and brief description; b. Number of users supported; c. Hours of support; d. Start and end date of support contract; and e. Customer name and contact information (including the name and either the telephone number or e-mail address of the organization's contact responsible for the application.
	Scoring: (Max 3 points) Ten (10) to fifty (50) supported users — 1 points Fifty-one (51) to two hundred (200) — 2 points Two hundred and one (201) or more — 3 points
R-10	**<u>Capability Maturity Model Integration (CMMI)</u>** The Bidder should provide proof that they have achieved CMMI certification.
	To demonstrate CMMI certification the Bidder should provide a copy of the official CMMI certification showing the maturity level of certification.

	Scoring: (Max 5 points)	
	Level one (Initial) certification	1 points
	Level two (Managed) certification	2 points
	Level three (Defined) certification	3 points
	Level four (Quantitatively Managed) certification	4 points
	Level five (Optimizing) certification	5 points