

REQUEST FOR PROPOSAL (RFP)

Spatial Heterodyne Observations of Water (SHOW) Assembly and Integration for a Balloon Flight

**Bid Submission Deadline:
December 17, 2013 at 2:00 PM (EDT)**

Submit Bids to:

Canadian Space Agency
TENDERS RECEPTION OFFICE
Receiving/Shipping (8:00 to 16:30)
Closed between 12:00 and 13:00
6767 route de l'Aéroport
Saint-Hubert (Quebec) J3Y 8Y9
Canada

Attention: Isabelle Doray

Reference: CSA File No. **9F045-13-0621**

Note: Please read this Request for Proposal carefully for further details on the requirements and bid submission instructions.



November 28, 2013

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PART 1 - GENERAL INFORMATION

1. Security Requirement

There is security requirement associated with the requirement.

2. Statement of Work

The Spatial Heterodyne Observations of Water (SHOW) instrument is designed to vertically resolve water profiles from limb scattered sunlight in the upper troposphere – lower stratosphere (UTLS) region of the atmosphere. These high spatial resolution profiles are attained through the use of a Spatial Heterodyne Spectrometer (SHS) operating within a vibrational band of water. Though this technology has been demonstrated successfully in a laboratory environment, it remains relatively immature in the context of a space mission and would benefit from a technology demonstration associated with a balloon flight. This contract will implement the necessary design adjustments to adapt the current SHOW instrument for balloon flight, followed by assembly, integration, and verification of instrument operability.

Initial period of the Contract

The award contract date to April 30, 2014

Optional period of the Contract

From April 2014 to November 30, 2014

3. Communications Notification

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

4. Debriefings

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

5. Maximum Funding Initial period of the Contract

The total maximum funding available for the initial period of the contract resulting from the bid solicitation is **\$225,000.00**, Goods and Services Tax or Harmonized Sales Tax extra, as appropriate. This disclosure does not commit Canada to pay the maximum funding available. Bids valued in excess of this amount will be considered non-responsive.

5.1 Maximum Funding Optional period of the Contract

The total maximum funding available for the optional period of the contract resulting from the bid solicitation is **\$75,000.00**, Goods and Services Tax or Harmonized Sales Tax extra, as appropriate. This disclosure does not commit Canada to pay the maximum funding available. Bids valued in excess of this amount will be considered non-responsive.

PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions

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

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

1.1. SACC Manual Clauses

The document 2003 (2013-06-01) - Standard Instructions - Request for Proposal - Goods or Services - Competitive Requirements are incorporated by reference into and form part of the bid solicitation.

Delete section – 01 (2012-09-11) Code of Conduct and Certifications - Bid

Insert section – 01 (2012-07-11) Code of Conduct and Certifications - Bid

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

Delete: sixty (60) days

Insert: hundred twenty (120) days

2. Submission of Bids

Bids must be submitted only to the CSA's Tenders Reception Office by the date, time and place indicated on the front page of this bid solicitation.

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

3. Enquiries - Bid Solicitation

All enquiries must be submitted **BY E-MAIL ONLY** to the Contracting Authority **no later than three (3) calendar days** before the bid closing date. Enquiries received after that time may not be answered.

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

4. Applicable Laws

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

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

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

Canada requests that offerors provide their offer in separately sections as follows:

Section I: Technical Offer	one (1) hard copy and one (1) electronic copy presented as a single document on a DVD
Section II: Financial Offer	one (1) hard copy and one (1) electronic copy presented as a single document on a DVD
Section III: Certifications	one (1) hard copy and one (1) electronic copy presented as a single document on a DVD

1 DVD only for the 3 sections

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

Canada requests that offerors follow the format instructions described below in the preparation of their offer.

- a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- b) use a numbering system that corresponds to that of the Request for proposal

Section I: Technical Bid

In their technical bid, bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements.

Bidders should demonstrate their capability and describe their approach in a thorough, concise and clear manner for carrying out the work.

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

The structure and content requested for Section I are detailed in ATTACHMENT 1 TO PART 3 TECHNICAL AND MANAGERIAL BID PREPARATION INSTRUCTIONS

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment and the **Annex B** - Pricing. The total amount of Goods and Services Tax (GST) or Harmonized Sales Tax (HST) must be shown separately, if applicable.

Unless otherwise specified in the bid solicitation, bids must be in Canadian currency.

The requirement does not provide for exchange rate fluctuation protection. Any request for exchange rate fluctuation protection will not be considered and will render the bid non-responsive.

Section III: Certifications

Bidders must submit the certifications required under Part 5.

ATTACHMENT 1 TO PART 3

TECHNICAL AND MANAGERIAL BID PREPARATION INSTRUCTIONS

3A.1. TECHNICAL AND MANAGERIAL BID

The details provided in this Attachment complement the information introduced in Part 3 - Bid Preparation Instructions.

The Bidder should present the information about the Technical and Managerial Bid for each Priority Technology in the following order:

1. Title / Project Identification Page (see 3A.2);
2. Executive Summary (see 3A.3);
3. Table of Contents (see 3A.4);
4. Technical Relevance (see 3A.5);
5. Technical Section (see 3A.6);
6. Managerial Section (see 3A.7);
7. Bid Appendices (see 3A.8).

The structure of the Technical and Managerial Bid, and its subsections, are described below. Some of the subsection headings are followed by numbers in brackets. These numbers represent the Evaluation Criteria (see Table 4A.1 of Attachment 1 to Part 4) that are applicable to that specific section/subsection for each bid submitted by a Bidder.

3A.2 Title/Project Identification Page

The first page of the each bid submitted should state the following information.

- a) The Request For Proposal file number;
- b) The company's name and address;
- c) The title of the proposed Work (the use of acronyms in the title is discouraged, unless they are described);

3A.3 Executive Summary

The Bidder must provide an Executive Summary. The Executive Summary is a stand-alone document suitable for public dissemination, for example, through the CSA web site. The Executive Summary should not exceed two pages in length (8.5" x 11") and should highlight the following elements:

- a) Work objectives;
- b) Relevance;
- c) Main innovations;
- d) TRL development;
- e) Technical risks;
- f) Major milestones and deliverables; and
- g) Impact on the proposed technology and the associated targeted Future Mission(s).

Bidder should provide the Executive Summary in Soft copy with the only acceptable format: MS Word, WordPerfect, PDF or HTML in a separate file and not contain any proprietary markings.

3A.4 Table of Contents

The table of contents should be formatted such that its headings are linked to their respective location in the bid for ease of reference when using the bid's Soft copy version.

3A.5 Technical Relevance

3A.5.1 Relevance of the technology (Evaluation Criterion 1) (see section 4A.3.1 Criterion 1 Technical Relevance of Attachment 1 to Part 4)

The criterion assesses the degree of relevance which the proposed Work has. More specifically, this criterion assesses the degree to which the bid exhibits an understanding of the stated performance and functional requirements and explains how the proposed approach will contribute to meeting these requirements.

The Bidder should address and substantiate the relevance of the proposal to the Specific Statement of Work defined in Annex A.

3A.6 Technical Section

The Technical Section should describe the technical aspects of the project as outlined in the following subsections.

3A.6.1 Team Technical Experience and Capacity (Evaluation Criterion 2) (see section 4A.3.2 Criterion 2 Team Technical Experience and Capacity of Attachment 1 to Part 4)

This criterion assesses the combined technical capability and experience of the team assembled to carry out the Work. In order to do the assessment, the bidder should demonstrate capabilities and experience in developing technologies and engineering development of similar technology and comparable score and complexity to the Work detailed in the Appendix 5 of Annex A: Specific Statement of Work.

3A.6.2 Understanding the Technology (Evaluation Criterion 3) (see section 4A.3.3 Criterion 3 Understanding the Technology of Attachment 1 to Part 4)

Bidder should demonstrate in his proposal that this criterion assesses the degree to which the bid exhibits an understanding of the fundamental concepts and trade-offs on the needs of the technology and of the proposed application as they relate to the activity proposed. In order to do the assessment, a concise statement of the technical objectives of the Work, both in terms of its functionality and performance is to be provided. Also, a description of the proposed technology must be provided, including a description of the overall problem, an overview of the background context, such as results of literature searches, prior development, state-of-the-art, and a general description of the expected improvement, results and benefits, based on the technical objectives described in the Appendix 5 of Annex A: Specific Statement of Work.

3A.6.3 Technical Methodology (Evaluation Criterion 4) (see section 4A.3.4 Criterion 4 Technical Methodology Criterion of Attachment 1 to Part 4)

For this criterion, the Bidder should provide an overview of the technical methodology and its correlation with the main activities of the work-plan. The methodology outlined should describe how the Work would be conducted through the utilisation of analytical methods, procedures, techniques, industry standards, best practices and the state-of-the-art for pertinent disciplines,

such as “value engineering.” Methodology should clearly demonstrate maturation of the particular technology in terms of TRL and define conditions and criteria, pertinent to the technology in question, which should be met at each TRL level covered by the bid.

The Bidder should also elaborate on and substantiate the proposed methodology while making references to the main activities of the work-plan described in the body of the bid and appearing in the Work Breakdown Structure (WBS), (see paragraph 3A.7.4 of Attachment 1 to Part 3). The effectiveness of the methodology and its correlation to the work-plan should be explained and substantiated.

The methodology and the corresponding work-plan should take in consideration the Technical Risk Assessment/Analysis (see paragraph 3A.6.4 of Attachment 1 to Part 3). For projects involving software development, the Bidder should outline the software development environment and methodology already in place (e.g., use of CASE tools, standards, quality assurance, etc.). The methodology being employed should include any of the relevant issue that could potentially affect the progression of the work-plan. As an example, the availability of equipment, facilities and infrastructure to support successful progression of the Work will be provided here.

**3A.6.4. Technical Risk Assessment/Analysis
(will not be used as a proposal evaluation criterion)**

In the technical methodology subsection the bidder should provide an assessment of the technical risks/uncertainties involved as well as the major assumptions upon which the work is based. In particular, this subsection should address any performance risks that pertain to the new technology. The risks should be identified and a Risk Mitigation Plan, that would include contingency plans, alternatives or other means of limiting adverse impacts of risks being realized, should be provided. As a guideline, Table 3A.1 presents a fictitious example of a Technical Risk Assessment Matrix, while Table 3A.2 presents an example of a Project Risk Profile Matrix.

Risk Event 1 (R1)	Limited availability of key documents	
Probability	Low	1/20 Past experience demonstrates important number of different sources for patents and articles covering this subject
Consequence to project	Low	\$5 000 - \$10 000 Cost growth Schedule delays
Risk Assessment	Low	\$250 - \$500 (R < 5% of overall project value, \$250K)
Mitigation Plan	Secure at least 2 sources for each type of document	
Contingency Plan	Use second source	

Table 3A.1: Example of a Technical Risk Assessment Matrix

Probability			
High			R2
Medium			
Low	R1		
	Low	Medium	High
	Consequence		

Table 3A.2: Project Risk Profile Matrix

It is understood that a certain amount of technical risk should be assumed. The extent to which higher technical risks are acceptable depends upon how well they have been identified, defined, assessed, planned for, and managed once realized. If the technical risks are poorly defined, or the risk mitigation is inadequately planned, then the project's evaluation score is likely to diminish.

**3A.6.5 Performance Evaluation Criteria (PEC)
(will not be used as a proposal evaluation criterion)**

The Bidder should provide a list of objectively measurable or binary (yes/no) Performance Evaluation Criteria (PEC) for use as the foundation to evaluate the progress of the project and compare with the initial technical objectives. This list will be reviewed, updated if needed, and accepted by the CSA at the Kick-Off Meeting and at each Milestones/ Progress Meetings for upcoming Milestones/Progress Review Meetings. See Annex A, section A.6.2. The PEC will be used at the Work Authorization Meeting and decision as a basis for a decision to proceed with the follow-on activities of the project.

3A.7 Managerial Section

The Managerial Section should demonstrate the effectiveness and commitment of the Bidder in delivering the Work up to its integration into the targeted balloon flight opportunity (August 2014). Its subsections are Key Resource Management Experience, Management Plan.

**3A.7.1 Key Resource Management Experience (Evaluation Criterion 5)
(see section 4A.3.5 Criterion 5 Key Resource Management Experience of Attachment 1 to Part 4)**

The Bidder should identify his Project Manager for each bid he submits and outline his/her qualifications. Bidder It should identify the key members of the project's technical and management teams and state their specific qualifications and experience for the work involved. Detailed resumes must be provided into an Appendix to Section I of the bid. Names of back-up personnel for key positions should also be included.

This section should also outline the roles and responsibilities of all the proposed resources, as well as discuss and highlight the unique expertise they offer with respect to the capability of the team. Bidder should include an organization chart that illustrates the structure of the proposed project team.

**3A.7.2 Management Plan (Evaluation Criterion 6)
(see section 4A.3.6 Criterion 6 Management Plan of Attachment 1 to Part 4)**

The Bidder should present a Management Plan. The Management Plan for its completeness and assesses its effectiveness in directing the project to a successful completion. Collaborative projects and/or projects led by University or Non-Profit Bidders should identify specific tasks and objectives related to an effective process for transfer of knowledge and technologies to industry. IP management approach must be described. The Management Plan's presentation must be based on the recognized management tools most applicable to the proposed project, such as a scope planning (Work Breakdown Structure), and schedule development charts (Gantt, Program Evaluation and Review Technique -PERT, etc). Equivalent Bidder-developed, project-tailored tools/charts are also acceptable, provided that the information is complete and comprehensive.

**3A.7.2.1 Bidder Background and Related Experience
(will NOT be used as a proposal evaluation criterion)**

This section should contain a concise overview of the Bidder. It should cover the following elements: the nature and structure of the Bidder's organization; the level of Canadian ownership; the location, size and general description of the plant facility; the size and composition of staff; the principal product or field of endeavour; the annual business volume and general nature of the company's client base; and a list of any applications for funding from other Government sources and/or Government contracts received for similar and/or related work. This section should identify the location where the Work will be performed.

**3A.7.2.2 Work Breakdown Structure and Work Package Definition
(see section 4A.3.6 Criterion 6 Management Plan of Attachment 1 to Part 4)**

This Management Plan subsection should define and specify the scope of Work to be executed according to the requirements of the Statement of Work, Contract Deliverables and Meetings (Annex A). Work Breakdown Structure (WBS) is a recognized scope definition technique, while Work Packages (WP) stem from the WBS. The WBS should flow down to a low enough level and the associated WP should be defined in sufficient depth in order for the Bidder to demonstrate the process that will be followed to perform the project.

Each WP should focus on specific activities that will form the total Work and, as a minimum, should define and describe the specific work to be carried out. It should also indicate: the person responsible, the WP's associated levels-of-effort and required resources, the schedule (start and finish dates), the risks, and the associated inputs and deliverable or output.

As a guideline, Figure 3A.1 presents a fictitious example of a WBS, while Table 3A.3 presents a fictitious example of a Work Package Definition Sheet. For each work packages the Bidder should provide a detailed statement of work and list the associated resources.

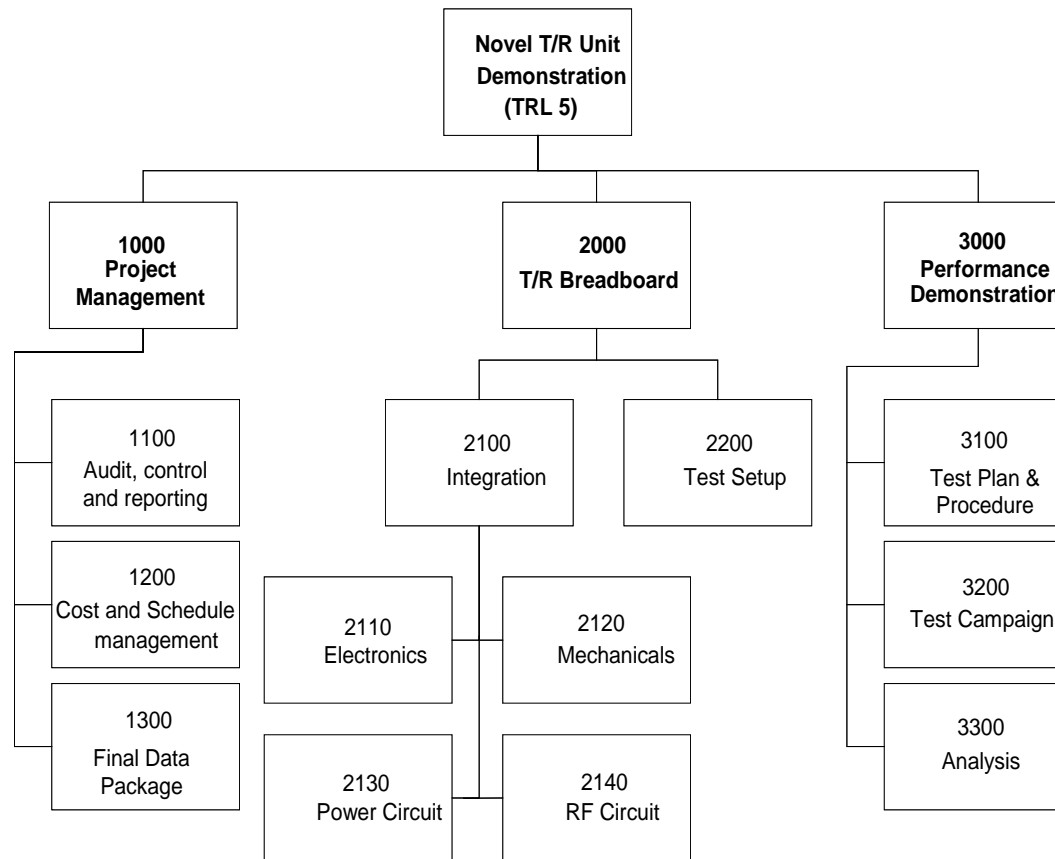


Figure 3A.1: Example of a Work Breakdown Structure

Project: T/R Unit Demonstration		
Work Pack Title:	TEST SETUP	WBS Ref: 2200
Sheet: 1 of 1	WP Estimated Value:	Do not indicate \$ value in Section I of the bid, indicate value only in Section II
Scheduled Start: T0 + 2 weeks	Accountable Manager:	Resource A
Scheduled End: T0 + 12 weeks	Resources:	Resource A, Resource B, Resource C
Estimated Effort: 80 hours		
<u>Objectives:</u>		
<ul style="list-style-type: none"> • Deliver a functional test setup for the T/R unit 		
<u>Inputs:</u>		
<ul style="list-style-type: none"> • Test plan and procedure • Unit drawings • Unit Interface Control Documents 		
<u>Tasks:</u>		
<ul style="list-style-type: none"> • Review input documentation • Define requirements • Produce initial concept • Design test setup • Fabricate test setup • Commission and debug 		
<u>Outputs and Deliverables:</u>		
<ul style="list-style-type: none"> • Fully functional T/R unit test setup • Test setup log manual • Test setup user manual 		

Table 3A.3: Example of Work Package Definition Sheet

3A.7.2.3 Personnel Allocation**(see section 4A.3.6 Criterion 6 Management Plan of Attachment 1 to Part 4)**

This Management Plan subsection should include a Responsibility Assignment Matrix (RAM) showing the level-of-effort for each individual team member that has been allocated to each WP. The matrix should identify each individual by name, and provide the estimated time (number of hours or days) required to complete each task. Also, the RAM should identify the role of the individual, either being the accountable person for the WP (A), or being a participant (P). As a guideline, Table 4 presents a fictitious example of a RAM. The RAM should be presented in both the technical bid and the financial bid.

WBS Number	Work Package Title	Resource A		Resource B		Resource C		Total
1.1	Project Management	A	200	P	25	P	25	250
1.2	Literature Survey	A	25	P	100	-	0	125
1.3	Requirements	P	50	A	100	P	100	250
1.4	Design	P	100	A	100	P	150	350
1.5	Build	-	0	P	200	A	150	350
1.6	Test and Analysis	A	100	P	200	P	200	500
	Total		475		725		625	1825

Table 3A.4: Example of Responsibility Allocation Matrix (RAM)

P: Participant
A: Accountable

3A.7.2.4 Managerial Risk Assessment**(see section 4A.3.6 Criterion 6 Management Plan of Attachment 1 to Part 4)**

This Management Plan subsection should provide an assessment of the managerial risks involved, provide a Risk Mitigation Plan and identify critical issues that may jeopardize the successful completion of the Work within cost and schedule constraints. As a guideline, Table 3A.5 presents a fictitious example of a Managerial Risk Assessment Matrix. Additionally, Table 3A.6 presents an example of a Project Risk Profile Matrix.

Risk Event 2 (R2)	Late delivery of test equipment	
Probability	High	1/3 Past experience with provider demonstrated poor respect of schedule
Consequence to project	High	\$110 000 (cost of securing optional test facility) Significant cost growth Significant schedule delays
Risk Assessment	High	\$55 000 High (R > 25% of overall project value)
Mitigation Plan	Identify and secure equivalent equipment in immediate geographical region Ensure equipment will be available for needed time frame Memo of understanding with facility key managers	
Response Plan	Secure equipment with MOU Confirm time frame options with facility	

Table 3A. 5: Example of a Managerial Risk Assessment Matrix

Probability			
High			R2
Medium			
Low	R1		
	Low	Medium	High
	Consequence		

Table 3A.6: Example of a Project Risk Profile Matrix

3A.7.2.5 Milestones and Deliverables

(see section 4A.3.6 Criterion 6 Management Plan of Attachment 1 to Part 4)

This Management Plan subsection should contain a definition of the milestones and describe in details all expected deliverables, including hardware, software, and relevant documentation (refer to Annex A for more details). When appropriate, the milestones and deliverables should contain all elements identified in Table A-2 of Annex A and should relate to the corresponding WP definition in a manner enabling clear monitoring of progress (see paragraph 3A.7.4).

3A.7.2.6 Schedule

(see section 4A.3.6 Criterion 6 Management Plan of Attachment 1 to Part 4)

The Bidder should provide a project timetable that relates tasks, milestones and deliverables. A Gantt chart and/or PERT chart should be used to illustrate the schedule. The schedule should show significant details for events associated with achievement of major tasks, milestones and deliverables. The Bidder should demonstrate how required milestones will be met. Linkage between activities should also be identified in the schedule. For planning purposes, use a project start date of mid-December 2013.

3A.7.2.7 Project Control System

(see section 4A.3.6 Criterion 6 Management Plan of Attachment 1 to Part 4)

This Management Plan subsection should outline the methods and systems to be used to control tasks, schedules, and costs for the Work. The Contract Plan and Report Form (PWGSC-TPSGC 9143) can be substituted by another project management tool or a spreadsheet software package as long as it contains, as a minimum, the information required in the Contract Plan and Report Form (see following link for document: <http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>). Additionally, the Project Control System should be capable of reporting the amount of work per WBS item for each individual on a monthly basis.

3A.7.2.8 Background Intellectual Property and Foreground Intellectual Property

(see section 4A.3.6 Criterion 6 Management Plan of Attachment 1 to Part 4)

This subsection should identify and describe all Background Intellectual Property (BIP) that is required to conduct and/or support the Work and all Foreground Intellectual Property (FIP) expected to arise from the proposed Work. BIP and FIP element should be described in sufficient detail so as to be clearly distinguishable. The expected format to provide this information is as per Tables 3A.7 and 3A.8.

BIP #	Title of the BIP	Types of IP (software algorithms, hardware design, patent)	Type of access to the BIP required to use/improve the FIP	Description of the BIP	Reference documentation (technical report, design document)	Origin of the BIP (internal R&D, project # or contract #)	Owner of the BIP (contractor, subcontractor)

Table 3A.7: Disclosure of Background Intellectual Property (BIP) expected to be required for the Contract

FIP #	Title of FIP	Type of FIP (copyright, invention, design, software, know-how, trade secret...)	Description of the FIP	Reference documentation (technical report, design document)	Owner of the FIP (contractor, subcontractor, or the Canada)

Table 3A.8: Disclosure of the Foreground Intellectual Property (FIP) expected to be developed under the Contract

Bidders should use of graphical representations that include block diagrams is encouraged in order to demonstrate the relationships between the various elements of the BIP and the FIP. The BIP and the expected FIP will be reviewed at the Kick-Off Meeting, and updated at each Review Meeting.

For each element of the BIP, this subsection should also specify:

- a) In what way the BIP element will be incorporated into the FIP;
- b) The type of access to each element of the BIP that is required in order to use, modify, improve and/or further develop the FIP; and
- c) The owner of the BIP.

Bidder's realizations that are software oriented and propose to improve upon existing software programs/applications will be required to provide the initial source code and associated documentation along with the final deliverables, unless the improvements can be clearly distinguished from the existing software (i.e., can be divided in different modules). In this case, the Interface Configuration Document (ICD) between the existing and new modules, and the executables of the existing module would be a deliverable. Similarly, projects that propose to improve upon existing hardware apparatus, fabrication or other processes will be required to provide current drawings, documentation and process descriptions along with the deliverables.

The Bidder should address and confirm the availability of all BIP elements to the CSA, in particular, if the final deliverables and the proof-of-concept demonstration require a special proprietary environment or tools for their operation. The Bidder will only be allowed to claim for costs associated with acquiring a research license for third-party BIP in order to conduct an assessment of such BIP to determine its usefulness to the technology being developed. The Bidder should acquire, at its own cost, a commercial license for any required third-party BIP. The acquisition of such a commercial license is strongly encouraged, although not paid for by the contract, as a demonstration of the Bidder's commitment to commercializing the FIP.

3A.8. Bid Appendices

3A.8.1 Appendices Required with the Bid

The following item should be addressed in individual appendices as part of the bids:

- (a) List of Acronyms: All the acronyms used in the Section I: Technical and Managerial Bid, should be explained;
- (b) Resumes: The bid should include resumes of the proposed resources and these should be appended to Section I: Technical and Managerial Bid;
- (c) Relevant Technical Papers Published by Team Members: Only literature that is relevant and that would be useful to support the bid;
- (d) List of Contacts: The list of contacts should be appended to Section I: Technical and Managerial Bid, in a format suitable for distribution and should include all the Bidder's points-of-contacts involved in the bid development and/or during the Contract.

The following example format should be used:

Role	Name	Telephone	Fax	E-Mail
Project Manager				
Project Engineers/Head Investigator				
Contractor's Representative				
Claims(Invoicing) Officer				
Communications (for press release)				
Etc.				

Table 3A.9 : Bidder's List of Contacts

If possible, and for the Project Authority ease of reference, the Bidder is also encouraged to include an electronic business card for each of the points-of-contact.

PART 4 – EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

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

2. Technical and Management Evaluation

2.1 Mandatory Criteria

At Bid closing time, the Bidder must comply with the following Mandatory Requirements and provide the necessary documentation to support compliance.

Any Bid which fails to meet all the following Mandatory Requirements will be declared non-responsive. Each requirement is requested to be addressed separately.

MC 1 Bidders must submit the certifications required under Part 5.

2.2 Point rated Technical and Management Criteria

Point rated technical and management evaluation criteria are included in **ATTACHMENT 1 TO PART 4**

3. Financial Evaluation

3.1. Mandatory Financial Criteria

MC 2 The maximum funding available resulting from the bid solicitation is a firm all-inclusive lot price of **\$225,000.00**, Goods and Services Tax or Harmonized Sales Tax extra, as appropriate. Bids valued in excess of the amount indicated will be considered non-responsive. This disclosure does not commit Canada to pay the maximum funding available. The Bidder must submit a signed Bid as specified in the clause entitled "Signature of Bid" in part II of this Bid solicitation.

MC 3 The total maximum funding available for the optional period of the contract resulting from the bid solicitation is **\$75,000.00**, Goods and Services Tax or Harmonized Sales Tax extra, as appropriate. This disclosure does not commit Canada to pay the maximum funding available. Bids valued in excess of this amount will be considered non-responsive.

4. Basis of Selection - Highest Rated Within Budget

To be declared responsive, a bid must:

- (a) comply with all the requirements of the bid solicitation;
- (b) meet mandatory evaluation criteria; and
- (c) obtain the required minimum points for each criterion and each group of criteria with a pass mark; and

- (d)** obtain the required minimum points overall for the technical evaluation criteria which are subject to point rating
- (e)** obtain the required minimum points overall for the management evaluation criteria which are subject to point rating

Bids not meeting (a) or (b) or (c) or (d) or (e) will be declared non responsive.

The responsive bid with the highest number of points will be recommended for award of a contract, provided that the total evaluated price does not exceed the budget available for this requirement.

The overall score will be obtained by adding the scores for each of the following group of criteria: "Technical", and "Management".

ATTACHMENT 1 TO PART 4
POINT RATED EVALUATION CRITERIA

TECHNICAL AND MANAGEMENT CRITERIA AND RATINGS

The Bidder must achieve the minimum score requirements as indicated in Table 4A.1: "List of Evaluation Criteria and Associated Ratings". The bid will be evaluated according to the point-rated criteria as specified in Table 4A.1 and as described in section 4A.3 "Evaluation Criteria and Benchmark Statements".

The criteria are grouped under the following divisions:

- a) Technical Relevance Criterion,
- b) Technical Criteria, and
- c) Management Criteria.

Section 4A.3 "Evaluation Criteria and Benchmark Statements" of the current attachment contains a series of evaluation criteria, each supported by a set of 5 benchmark statements (0, A, B, C, and D). Each of these statements has a corresponding relative value:

- 0 = 0% of the maximum point rating
- A = 25% of maximum point rating
- B = 50% of maximum point rating
- C = 75% of maximum point rating
- D = 100% of maximum point rating

As an example, the maximum point rating for the "*Team Technical Experience and Capacity*" criterion is 10 points. If a Bid receives a "C" for this criterion in the evaluation process, the score attributed will be:

$$75\% \text{ of } 10 \text{ points} = 7.5 \text{ points (score)}$$

Table 4A.1 identifies:

- a) The maximum point rating assigned to each criterion;
- b) The minimum point rating required for the "Technical Relevance" criterion;
- c) The maximum point rating possible for the overall score; and
- d) The minimum point rating required for the overall score.

Evaluation Criteria and Ratings	
	Ratings
Technical Relevance Criterion	
1.Relevance of the technology	15
Minimum Score	10
Technical Criteria	
2. Team Technical Experience and Capacity	10
3. Understanding the Technology	25
4. Technical Methodology	25
Minimum Score	N/A
Management Criteria	
5. Key Resource Management Experience	10
6. Management Plan	15
Minimum Score	N/A
Maximum Overall Score	
	100
Minimum Overall Score Requirement	
	70

Table 4A.1: - List of Evaluation Criteria and Associated Ratings

4A.2. BIDDER'S CRITERIA SUBSTANTIATION

The Bidder is requested to provide a substantiation (supporting evidence), which should be submitted as an appendix to their Section I (see section 3A.8.1 "Appendices Required with the bid" of Attachment 1 of Part 3: Technical and Managerial Bid Preparation Instruction).

For each of the applicable criteria, provide the substantiation and summarized cross-reference(s) to the bid.

The substantiation should be concise yet sufficiently comprehensive to ensure that the evaluators get a good overall appreciation of the bid's merit relative to the specific criterion. Cross-references to appropriate sections of the bid should be provided and the essence of the referenced information should be summarised in the substantiation.

For convenience, a Substantiation Table is provided in Table 4A.2 below. Enter each relevance/technical/management criterion section number, and the substantiation. It is expected that approximately half a page should be sufficient to make the Bidder's case for the rating chosen in the substantiation column.

Company:	
Project Title: Mission-Enabling Technologies	
Criteria	
Substantiation	
<i>Ex.: 1 (criterion number)</i>	<i>Relevance of the technology It is expected that 300 words or so should be sufficient to make your case.</i>

Table 4A.2: Substantiation Table

4A.3. EVALUATION CRITERIA AND BENCHMARK STATEMENTS

The evaluation criteria benchmark statements are used by the evaluators as guidelines to justify their score. Bidders should use them to focus on the relevant information to be provided.

TECHNICAL RELEVANCE CRITERION

4A.3.1 CRITERION 1 TECHNICAL RELEVANCE

This criterion assesses the degree of relevance which the proposed Work has with respect to the current RFP. More specifically, this criterion assesses the degree to which the bid exhibits an understanding of the stated performance and functional requirements and justification of the contribution of the proposed approach in meeting these requirements.

A minimum of 10 points are required for the bid to be considered compliant.

<u>Score</u>	<u>Benchmark Statements</u>
0	The bid does not address the activity being sought by this RFP.
A	The bid addresses the activity defined in Annex A but does not show an understanding of the driving needs nor does it demonstrate how the proposed approach will contribute to meeting the stated requirements.
B	The bid addresses the activity, defined in Annex A, but either shows a poor understanding of the driving needs, or a vague demonstration how the proposed approach will contribute to meeting the stated requirements.
C	The bid addresses the activity defined in Annex A, shows an overall understanding of the driving needs, and generally demonstrates contribution of the proposed Work to meeting the stated requirements. However, some details regarding the contribution of the proposed approach to meeting the overall requirements and/or the expected characteristics remain unclear.
D	The bid addresses the activity defined in Annex A, shows a complete grasp of the driving needs and demonstrates a solid understanding of the performance and functional characteristics being sought, as well as a clear link between the proposed approach and stated performance and functional expected requirements.

TECHNICAL CRITERIA

4A.3.2 CRITERION 2: TEAM TECHNICAL EXPERIENCE AND CAPACITY

This criterion assesses the combined technical capability and experience of the team assembled to carry out the Work.

The proposal substantiates that the technical team:

Score Benchmark Statements

- 0 Has not demonstrated capability and experience with closely related technologies.
- A Has demonstrated limited capability and experience with closely related technologies.
- B Has demonstrated some capability and experience with closely related technologies but key capabilities are missing to form a comprehensive team.
- C Has worked actively with closely related technologies of comparable scope and complexity. The proposed team possesses all the capabilities and experience required to perform the Work.
- D Is highly experienced in developing closely related technologies and in the related engineering development of similar technology of comparable scope and complexity. The proposed team possesses all the capabilities required to perform the Work.

4A.3.3 CRITERION 3: UNDERSTANDING THE TECHNOLOGY

This criterion assesses the degree to which the bid exhibits an understanding of the fundamental concepts of the technology and of the proposed application as they relate to the research activity proposed.

The bid:

Score Benchmark Statements

- 0 Does not exhibit an understanding of the required concepts and/or of the associated applications.
- A Demonstrates only a limited understanding of the background or "state-of-the-art" of the technological concept(s) involved.
- B Demonstrates a general understanding of the state-of-the-art, includes a review of other work relevant to the concept, and explains why the proposed Work will lead to the expected results.
- C Demonstrates a detailed understanding of the state-of-the-art; includes a complete review of other work relevant to the central concept upon which the Work is based; and explains and provides some justification why the bid will lead to the expected results.
- D Broadens the review of fundamental concepts and other work underlying the bid to explain the full capabilities of the technology and its application, analyses and convincingly justifies the feasibility of achieving the technical objectives and the expected results.

4A.3.4 CRITERION 4: TECHNICAL METHODOLOGY

This criterion assesses the suggested Technical Methodology and its correlation with the work-plan as presented in the bid. It also evaluates the effectiveness of the described Methodology in resolving the technical challenges, in attaining the stated technical objectives of the Work, and in meeting requirements of the Statement of Work (SOW) described in ANNEX A.

Score Benchmark Statements

- 0 The methodology described in the proposal does not demonstrate how it will address the stated objectives.
- A The methodology described in the proposal follows a weak methodical approach.
- B The methodology described in the proposal demonstrates a somewhat acceptable approach. However, the proposal does not substantiate the effectiveness of the methodology being employed for achieving the stated objectives. Conditions and criteria to be met for each TRL level are not defined.
- C The methodology as described in the proposal demonstrates a robust approach. The proposal substantiates the effectiveness of the methodology for achieving the stated objectives. Conditions and criteria to be met for each TRL level are defined.
- D The methodology described in the proposal is based on state of the art expertise and demonstrates a robust approach. The proposal substantiates the effectiveness of the methodology being employed for achieving the technical objectives of the Work. Conditions and criteria to be met for each TRL level are well defined and elaborated.

MANAGEMENT CRITERIA**4A.3.5 CRITERION 5: KEY RESOURCE MANAGEMENT EXPERIENCE**

This criterion assesses the qualifications and experience and past successes of the Project Manager and key project Scientists/Engineers identified to lead this proposal. Resumes requested to be appended to Section 1: Technical and Managerial Bid will be assessed for this criterion

Score Benchmark Statements

- 0 The key project management team has not been identified or has no experience in successfully completing projects of similar scope, complexity and technology similar to that required for this proposal.
- A The key project management team does not have a proven track record of successfully completing projects of similar scope, complexity and technology similar to that required for this proposal.
- B The key project management resource has a moderate track record of successfully executing projects of a scope, complexity and technology similar to that required for this proposal.
- C The Project Manager and Project Scientist/Engineer identified have a proven track record of success in executing and managing projects of a scope, complexity and technology similar to that required for this proposal.
- D The Project Manager and Project Scientist/Engineers identified have a proven strong track record of success in completing projects on time, budget and performance of at least the scope, complexity and technology similar to that required for this proposal.

4A.3.6 **CRITERION 6: MANAGEMENT PLAN**

This criterion evaluates the Management Plan for its completeness and also assesses its effectiveness in directing the contract to a successful completion. It also assesses the Bidder's IP management approach.

The bid:

<u>Score</u>	<u>Benchmark Statements</u>
--------------	-----------------------------

- | | |
|---|--|
| 0 | Has no concrete management plan and thereby instills no confidence that the selected team will bring the contract to its successful completion. |
| A | Does not provide an adequate Management Plan and more than one of the subsections of the paragraph 3A.7.2 of Attachment 1 of Part 3 is not covered. Moreover, there is no BIP and/or FIP identified. |
| B | provides an adequate Management Plan, including identification of BIP and FIP; however, some subsections of Section 3A.7.2 of Attachment 1 of Part 3 are not covered. Consequently, the likelihood of delivering the proposed deliverables to the specified level of performance is not substantiated. |
| C | Provides a credible Management Plan and provides a reasonable, but not complete, BIP and FIP management approach. The plan's ability to effectively deliver on the projects requirements is demonstrated, but is somewhat limited because of lack of details. |
| D | Provides a coherent and comprehensive Management Plan. The plan's ability to effectively deliver on the project requirements is fully substantiated. A comprehensive IP management approach is provided. |

PART 5 - CERTIFICATIONS

1. Certifications Required with the Offer

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

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

1.1 Procurement Business Number

Suppliers are required to have a Procurement Business Number (PBN) before contract award.

Suppliers may register for a PBN online at Supplier Registration Information

<https://srisupplier.contractsCanada.gc.ca/>.

For non-Internet registration, suppliers may contact the InfoLine at 1-800-811-1148 to obtain the telephone number of the nearest Supplier Registration Agent.

Procurement Business Number (PBN): _____

1.2 Federal Contractors Program for Employment Equity

Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "[FCP Limited Eligibility to Bid](#)" list

http://www.labour.gc.ca/eng/standards_equality/eq/emp/index.shtml

available from [Human Resources and Skills Development Canada \(HRSDC\) - Labour's](#) website.

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

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

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

1.3 Former Public Servant

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

1.3.1 Definitions

For the purposes of this clause,

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

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

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

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

1.3.2 Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension?

Yes () **No** ()

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

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

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

1.3.3 Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive?

Yes () No ()

If so, the Bidder must provide the following information:

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

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

1.3.4 Proactive Disclosure of Contracts with Former Public Servants

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

1.4 Status and Availability of Resources

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

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

1.5 Education and Experience

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

1.6 Certification

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

CERTIFICATION SIGNATURE

We hereby certify compliance with the above noted certification requirements for:

- 1.1. Procurement Business Number
- 1.2. Federal Contractors Program for Employment Equity
- 1.3. Former Public Servant Certification
- 1.4. Status and Availability of Resources
- 1.5. Education and Experience
- 1.6. Certification

We also certify that the signature below is that of a person authorized to sign on behalf of the firm.

Signature

Date

Name (print or type)

Title of person authorized to sign on behalf of the Organization

Name of Organization

PART 6 - RESULTING CONTRACT CLAUSES

1. Security Requirements

1. The Contractor/Offeror must, at all times during the performance of the Contract/Standing Offer, hold a valid Designated Organization Screening (DOS) with approved Document Safeguarding at the level of **PROTECTED B**, issued by the Canadian Industrial Security Directorate, Public Works and Government Services Canada.
2. The Contractor/Offeror personnel requiring access to PROTECTED information, assets or work site(s) must EACH hold a valid **Reliability Status**, granted or approved by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).
3. The Contractor MUST NOT utilize its Information Technology systems to electronically process, produce or store PROTECTED information until CISD/PWGSC has issued written approval. After approval has been granted or approved, these tasks may be performed at the level of **PROTECTED B**.
4. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.
5. The Contractor/Offeror must comply with the provisions of the:
 - a) Security Requirements Check List and security guide (if applicable), attached at Annex _____;
 - b) Industrial Security Manual (Latest Edition)

2. Statement of Work

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

3. Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual issued by Public Works and Government Services Canada.

3.1. General conditions

2035 (2013-06-27), Higher Complexity – Services

Delete section 2035 41 (2012-11-09) Code of Conduct and Certifications

Insert section 2035 41 (2012-03-02) Code of Conduct and Certifications

3.2. Supplemental General Conditions

4007 (2010-08-16), Canada to Own Intellectual Property Rights in Foreground Information

4. Performance Evaluation

- a) Contractor shall take note that the performance of the Contractor during and upon completion of the work shall be evaluated by the Government of Canada. Should the

Contractor's performance be considered unsatisfactory more than once, the Contractor's bidding privileges on future work may be suspended for a period of 18 months or 36 months.

- b) Contractor Performance Evaluation Report Form is used to record the performance. See ANNEX C.

5. Term of Contract

5.1 Initial Contract period:

The initial contract period will be for approximately **4 months** commencing on the day of contract award and ending on April 30, 2014

5.2 Optional period of the Contract

1 optional four (7) months period ending on November 30, 2014

6. Contracting Authority

The Contracting Authority for the Contract is:

Isabelle Doray
Procurement and Contract Administration
Canadian Space Agency
6767 route de l'Aéroport
Saint-Hubert, QC
Canada J3Y 8Y9

Telephone: (450) 926-4873
Facsimile: (450) 926-4969
E-Mail: isabelle.doray@asc-csa.gc.ca

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

7. Project Authority

To be inserted at contract award.

Name: TBD
Title: **Manager, Microwave Communications**
Canadian Space Agency
Address: 6767, Route de l'Aéroport
St-Hubert, Québec, J3Y 8Y9

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

8. Basis of Payment - Limitation of Expenditure

The Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work, in accordance with the Basis of Payment in Annex B, to a limitation of expenditure of \$_____ (*insert the amount at contract award*). Applicable Taxes are extra.

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

The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:

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

Whichever comes first.

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

9. Terms of payment – Monthly basis

Canada will pay the Contractor on a monthly basis for work performed during the month covered by the invoice in accordance with the payment provisions of the Contract if:

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

10. Invoicing Instructions

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

Each claim must show:

- (a) all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
- (b) a list of all expenses;
- (c) a copy of time sheets to support the time claimed;
- (d) a copy of the invoices, receipts, vouchers for all direct expenses, travel and living expenses;
- (e) a copy of the monthly progress report.

Applicable Taxes must be calculated on the total amount of the claim.

Invoices must be distributed as follows:

(a) One (1) copy must be forwarded to the following address for certification and payment

CANADIAN SPACE AGENCY
9F045 – FINANCIAL SERVICES
Space Utilization
6767 Route de l'Aéroport
Saint-Hubert (Québec) J3Y 8Y9
CANADA

OR BY E-MAIL : facturationASC.CSAinvoicing@asc-csa.gc.ca

(b) One (1) copy must be forwarded to the Project Authorities identified under paragraph 7

11. Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in _____. (*Insert the name of the province or territory.*)

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

12. Priority of Documents

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

- a) the Articles of Agreement;
- b) General Conditions:
 - **2035 (2013-06-27)**, Higher Complexity Services
Delete section 2035 41 (2012-11-09) Code of Conduct and Certifications
Insert section 2035 41 (2012-03-02) Code of Conduct and Certifications
- c) Supplemental General Conditions
 - **4007 (2010-08-16)**, Canada to Own Intellectual Property Rights in Foreground Information
- d) Annex A, Statement of Work;
- e) Annex B, Pricing
- f) Annex C, Performance Evaluation
- g) the Contractor's bid dated _____.

ANNEX A – STATEMENT OF WORK

Spatial Heterodyne Observations of Water (SHOW) Assembly and Integration for Balloon Flight

1. Introduction

The Spatial Heterodyne Observations of Water (SHOW) instrument is designed to vertically resolve water profiles from limb scattered sunlight in the upper troposphere – lower stratosphere (UTLS) region of the atmosphere. These high spatial resolution profiles are attained through the use of a Spatial Heterodyne Spectrometer (SHS) operating within a vibrational band of water. Though this technology has been demonstrated successfully in a laboratory environment domestically, it remains relatively immature in the context of a space mission and would benefit from a technology demonstration associated with a balloon flight. This contract is focused on adapting the existing SHOW instrument design to a balloon platform for a float altitude from 30 – 40 km. This will involve assembling, and testing the SHOW instrument.

1.1. Convention

The following verbs, as used in this document, have specific meaning as indicated below:

“must”	indicates a mandatory requirement
“should”	indicates a preferred but not mandatory alternative.
“will”	indicates a statement of intention or fact.

In the following, the term 'contractor' is used to describe the team that will conduct the study, which could be a Canadian company, or be a joint team from Canadian entities with Canadian industry as the prime.

1.2. Responsibilities

The Canadian Space Agency (CSA) is the customer for this instrument development. As such, the Agency has the technical authority on all matters concerning this study. The contractor must perform the tasks as outlined in this SOW and must deliver the end items defined by this SOW.

2. Reference Documents

The following documents provide additional information or guidelines that either clarify the contents or are pertinent to the history of this document

- RD1: System Requirement Document; BOM-SHOW-0001 SRD version 3, (February 20, 2013)
- RD2: Spatial Heterodyne Observations of Water Instrument; ABBCABOM-00654-C- Final Concept Document (22 March 2013)
- RD3: User Manual for CNES Stratospheric Balloons: Part 1 Administration; BSO-MU-0-4793-CN version 1
- RD4: User Manual for CNES Stratospheric Balloons: Part 2 Environment; BSO-MU-0-4793-CN version 1
- RD5: User Manual for CNES Stratospheric Balloons: Part 3 Payload Gondola Design; BSO-MU-0-4793-CN version 1
- RD6: General Specifications on External Thermal Environments for Aerostats; BL-SP-BORD-2167-CN version 1
- RD7: Document D’Interfaces – Nacelle CARMEN; BSO-DCI-NCU-4921-CN-Draft version 1
- RD8: CSA-ST-GDL-0001 Rev. A, Technology Readiness Levels and Assessment Guidelines, Revision A, October 2010.

2.1 List of Acronyms

AI	Action Item
AIL	Action Item Log
AIT	Assembly Integration and Test
CDRL	Contract Data Requirements List
CNES	Centre National d'Etudes Spatiales
CSA	Canadian Space Agency
DID	Data Item Description
FOV	Field of View
GiFOV	Ground Instantaneous Field of View
GSE	Ground Support Equipment
InGaAs	Indium Gallium Arsenide
iFOV	Instantaneous Field of View
IR	Infrared
NDA	Non-Disclosure Agreement
NOSYCA	NOuveau SYstème de Contrôle d'Aérostats
PA	Project Authority
RD	Reference Document
ROM	Rough Order of Magnitude
SHOW	Spatial Heterodyne Observations of Water
SHOWTMD	Spatial Heterodyne Observations of Water Thermal Mechanical Design
SHS	Spatial Heterodyne Spectrometer
SIREN	Système d'Interface au REseau NOSYCA
SOW	Statement of Work
STDP	Science and Technology Development Program
TA	Technical Authority
TIM	Technical Interchange Meeting
TPM	Technical Performance Measure
TVac	Thermal-Vacuum
UTLS	Upper Troposphere – Lower Stratosphere
WP	Work Package

3. SHOW Instrument Balloon Mission

3.1. Scope

The contractor must establish the mission and interface requirements for the balloon launch of the SHOW instrument. This must include a review of the system and sub-system requirements produced during the SHOWTMD (Spatial Heterodyne observations of Water Thermal Mechanical Design) STDP (Science and Technology Development Program) [RD1], with the inclusion of any necessary adjustments, and advancements for the operational environment associated with balloon flight [RD3, RD4, RD5, RD6, RD7]. The SHOW instrument must be adapted, assembled, integrated, and tested. The assembly will make use of existing laboratory hardware such as the monolithic interferometer, exit optics, bandpass filter, and Indium gallium arsenide (InGaAs) camera that will be provided by York University. The testing will focus on operability and survival in the anticipated environment for a 30-40 km float altitude. Following instrument delivery, the contractor must provide technical and operational support for the SHOW instrument for the balloon flight, as well as post-launch technical support.

3.2. Work Packages

The work to be performed by the contractor will be divided into the following major Work Packages (WPs):

Initial Contract Period

Delivery Date before March 31, 2014

- WP 1 Concept and Requirements Review
- WP 2 Design Advancement and Adjustment
- WP 3 Procurement

Optional Contract Period

Delivery Date before July 30, 2014

- WP 4 Assembly, Integration, and Test of Fore-Optics
- WP 5 Assembly, Integration, and Test of SHS System

Delivery Date before November 2014

- WP 6 Field Campaign and Post-Launch Support

3.2.1 Descriptions of the WPs appear below.

The following provides descriptions and requirements for the work packages.

WP1: Concept and Requirements Review

WP1 must contain a review of the system and sub-system requirements produced during the SHOWTMD (Spatial Heterodyne observations of Water Thermal Mechanical Design) STDP (Science and Technology Development Program) [RD1], with the inclusion of any necessary adjustments anticipated for an operational environment at a float altitude of 30-40 km [RD3, RD4, RD5, RD6].

This work package must also include the development of requirements related to interfacing with the CARMEN gondola [RD7] and SIREN communication module [RD5], as well as the development of limb viewing requirements (e.g. vertical field of view (FOV), vertical ground instantaneous field of view (GiFOV), boresight center) in consultation with York University. Regarding the limb viewing requirements, a trade study must be performed to investigate the possibility of expanding the vertical FOV of refractive fore-optics to a maximum value of +/- 2.0 degrees while maintaining compatibility with existing SHS instrument and minimizing the impact on the current design. In assessing and developing the requirements, any expenses related to the consultation incurred by York will be reimbursed by the CSA.

WP1 must also contain a review of the existing design and concept [RD2]. Where aspects or details of the existing design are insufficient or inappropriate, initial concepts and preliminary designs must be developed.

More details about the requirements and expectations related to the individual subsystems can be found in the description of WP2. At the closure of WP1 a brief report listing the system and subsystem requirements and the preliminary design considerations must be produced. Anticipated adjustments in the requirements for a space mission should be noted.

WP2: Design Advancement and Adjustment

Following the review of the existing design and concept, WP2 must address any deficiencies and adjustments to adapt the SHOW instrument for balloon flight. This WP will include a design report containing the following:

- Payload definition
- Sub-system designs

- Technical performance measures and estimates of compliance
- Detailed drawings and manufacturing specifications
- Fabrication and integration plan (vendor identification and schedule)
- Design recommendations for a space mission should be included.

3.2.1.1 This work package can be organized into five separate sub-systems

- WP2.1 Optical
- WP2.2 Opto-mechanical
- WP2.3 Structural (enclosure)
- WP2.4 Thermal
- WP2.5 Electronic

Requirements for the sub-systems are detailed below

WP2.1 Optical

The refractive fore-optics must be finalized. This must include a ray trace (Zemax or Code V) of the optical system that maintains compatibility with the existing monolithic interferometer, exit optics, band-pass filter, and detector. Additionally, this must include tolerance analysis, ghost analysis, and associated estimated performance of anti-reflection coatings based on vendor feedback.

WP2.2 Opto-mechanical

The mounting structures, compensators, best practice baffles, and optical bench must be finalized. This is to include an assessment of the existing mounting structures associated with the monolithic interferometer, exit optics, band-pass filter, and detector. If required attachment of the existing exit optics to the optical bench must be addressed. The survivability of all attachment points must be validated by analysis, and the need for absorptive coatings on the opto-mechanical structures and optical bench must be assessed. If required, a coating appropriate for the expected thermal and pressure environment must be baselined.

WP2.3 Structural (enclosure)

Structural considerations must include finalizing the design of an environmental enclosure. It is currently anticipated that the enclosure should be able to be evacuated and back-filled with dry nitrogen to 1 atmosphere and contain a pressure sensor. Further, consideration should be given to using an appropriate band-pass filter as the entrance window, which should include vendor estimates of performance.

The environmental enclosure must have handles for transport, and be attachable to CARMEN gondola [RD5, RD7] where the survivability of the attachment points to the gondola must be validated through analysis.

A thermal model should be developed to determine if the optical bench should be thermally isolated from the environmental enclosure and the survivability of the attachment points for the optical bench to the enclosure must be validated by analysis.

WP2.4 Thermal

The thermo-mechanical design must be finalized, including any necessary adjustments to the thermal control for the SHOW instrument developed in RD2. This must include finalizing any associated electronics, determining the number and optimal position(s) of thermal sensors, and maintaining compatibility with the operational environment [RD4, RD6], the gondola [RD5, RD7], and SIREN module [RD5].

Thermal designs must include considerations of the heat load from the commercially available Xenics detector currently owned by York where a thermal strap may be used. As a note, the gondola will include a sun shield for the instrument in its acquisition geometry.

WP2.5 Electronics and GSE

The design of the electronics for the telemetry and command of the SHOW instrument must be finalized, including any associated ground support equipment (GSE), and software. Software development must be done in consultation with York University where all consultation expenses incurred by York will be reimbursed by the CSA.

It is anticipated that the electronics will be in a separate enclosure, contain on-board memory, and incorporate a single board computer or equivalent. The electronics must be compatible with the operational environment [RD4, RD6], the existing detector electronics (USB connection), the SIREN module (Ethernet connection) [RD5], and the CARMEN power supply [RD7]. In addition, the electronics and GSE must be compatible with commercially available Xenics camera software, Xeneth v2.2, running under Windows XP (32 or 64 bit)

WP3: Procurement

Following the design adjustments and advancements, various components must be procured. This will include the following:

Fore-Optics:

The refractive fore-optics optics must be procured. The procured optics must have anti-reflection coatings appropriate for the instrument pass-band.

Opto-mechanics:

The mounts, optical bench, and associated mechanical structures must be procured. This procurement must also include the baffles and any required coatings.

Structure (enclosure)

The environmental enclosure must be procured. This must include any required interfacing to the optical bench, and the gondola, as well as all required entrance windows, adapters, flanges, coatings, and pressure sensors.

Thermal Controller:

The thermal controller must be procured, including any associated thermal straps, electronics, and temperature sensors.

Electronic:

The electronics, associated GSE, and software must be procured or developed as appropriate. This is to include all elements related to the packaging, telemetry and command, USB and Ethernet connectivity, compatibility with the Xenics camera software, and on-board memory.

WP4: Assembly Integration and Test of the Fore-Optics

This work package must integrate the fore-optics, and the associated opto-mechanics, with the optical bench. This must include the draft of a verification plan which will include characterizing the optical performance at the operating wavelength. York will supply a commercial Xenics camera (operated by laptop or desktop PC), band-pass filter, and source if required. Here shipping and all other expenses incurred by York will be reimbursed by the CSA.

It is anticipated that the testing should include the following:

- effective focal length
- FOV in the horizontal and vertical
- iFOV on the vertical
- defocus on the horizontal

Further, mechanical testing using static loads to verify survivability of the attachment points must be performed, and test results must be documented in a report.

WP5: Assembly, Integration and Test of SHS System

WP5 must integrate the existing SHS system with the various sub-systems developed and procured in this contract. At the closure of WP5, all test results and verification plans must be summarized in a report.

3.2.1.2 This work package can be further divided into the following activities:

- WP5.1 Initial SHS Integration and Test
- WP5.2 Enclosure, Thermal Control, and Electronics Integration and Test
- WP5.3 TVac Testing

WP5.1 Initial SHS Integration and Test

With the support of York University the existing SHS system must be integrated, and tested with the previously assembled fore-optics and optical bench. This will include integrating the monolithic interferometer, exit optics, band-pass filter, detector, and laboratory detector electronics to be supplied by York University. Please note that this initial integration may be performed with the York supplied laboratory detector electronics to allow for parallel development of the on-board electronics/controller and associated GSE. York University must be actively involved in the initial alignment and assembly of these components as well as the development of appropriate verification plans. The CSA will reimburse any shipping, consultation, and labour expenses incurred by York in this process.

A verification plan will be drafted that must include characterizing the optical performance at the instrument operating wavelength. Acceptable performance metrics will be agreed to in consultation with York University and the CSA. It is anticipated that the testing should include the following:

- FOV in the horizontal and vertical
- iFOV on the vertical
- modulation efficiency
- spectral resolution
- Littrow wavelength

Further, mechanical testing using static loads must be performed to verify survivability of the attachment points, and all test results must be documented in a report.

WP5.2 Enclosure, Thermal Control, and Electronics Integration and Test

This work package must integrate the thermal control, environmental enclosure, and electronics with the aligned optical system. Here the focus will be on verification of sub-system operability in the anticipated environment. A verification plan will be drafted that must include validating operability of the various components and subsystems. Any software must be debugged.

Further, mechanical testing with static loads must be performed to verify survivability of attachment points and the optical performance of the SHS system must be characterized. Acceptable performance metrics will be agreed to in consultation with York University and the CSA. It is anticipated that this testing will include characterization of the following:

- FOV in the horizontal and vertical
- iFOV in the vertical
- modulation efficiency
- spectral resolution
- Littrow wavelength

All test results must be documented in a report.

WP5.3 TVac Testing

The WP must validate component and sub-system operability and survival in the expected environment of the instrument [RD4, RD6]. This must include thermal-vacuum (TVac) testing. Here vacuum is defined to be a pressure of less than that expected for a 41 km float altitude (approximately 2 hPa), the anticipated survival temperature range is -75°C to 40 °C, and the expected operating temperature range -55°C to 15 °C. To ensure survivability, the optical performance of the SHOW instrument must be characterized following a temperature cycle(s) in vacuum over the survival temperature range defined above.

It is anticipated that this testing will contain the following:

- FOV in the horizontal and vertical
- iFOV in the vertical
- modulation efficiency
- spectral resolution
- Littrow wavelength

In addition, operability of the SHOW instrument should be demonstrated at the mean operating temperature of a 35 km float altitude (approximately -40 °C). It is anticipated that this testing will include illuminating the instrument with an emission source to demonstrate the following:

- modulation efficiency
- spectral resolution
- Littrow wavelength

WP6: Field Campaign and Post-Launch Support

This work package describes the required support for integration of SHOW instrument on the CARMEN gondola. This must include the production of an Interface Control Document, transport of the instrument to the CSA or York University for final instrument verification/calibration, and technical support for final verifications and calibration. It is anticipated that this support will be limited to technical interchange meetings (TIMs) via telecom, and include the following:

- Testing at CSA to interface the instrument with CSA supplied SIREN module and gondola power supply. The testing will include final validation of the telemetry and control operability.
- Testing at York for TVac testing and instrument calibration.

In addition, the contractor must be available for technical and operational field support in Timmins, ON and participate in the final review meeting. This will include a final technical report documenting instrument development and performance, as well as recommendations for a future space mission. This report will contain lessons learned, and be accompanied by rough order of magnitude (ROM) costing of a space based payload as well as an assessment of the various technology readiness levels (TRLs) [RD8]. An executive report must be provided.

4. Contract Deliverables and Meetings

4.1 Schedule

The Contractor must establish a schedule for the balloon mission. WP1, WP2, and WP3 must close prior to the end of March 2014.

In April 2014 there will be option to continue the additional work packages on a contract extension. The overall schedule, and the delivery of test reports and hardware, must be consistent with a balloon flight in August 2014 and allow for sufficient schedule to perform the

final verifications and instrument calibration at the CSA or York prior to flight. Current estimates for final verification and calibration is 8 weeks which is consistent with instrument delivery in July 2014.

4.2 Meetings

This section reviews and describes the contract meetings.

The meetings are specified in Table 4.2.1.

Meeting	Title	Date	Location
Kick-off Meeting	KOM	Contract Start Date + 1 week	Contractor
Technical Interchange Meetings	TIM	As required or requested	Teleconference
[M1] Requirements Review Meeting	M1	Contract Start Date + 6 weeks	Teleconference
[M2] Design, Procurement, and Assembly Review Meeting	M2	Prior to March 31 st 2014	Contractor
[M3] AIT Review	M3	April 1 st 2014 + 6 weeks	Teleconference
[M4] Pre-Field Campaign	M4	August 2014 – 8 weeks	CSA
[M5] Post-Flight and Final Review Meeting	FRM	August 2014 + 3 months	CSA

Table 4.2.1.: Meetings

All key participants under the contract must attend all the meetings. All meetings will be used as work-authorization meetings.

The specific intent of the Requirements Review Meeting [M1] is to ensure consensus between all key participants including the balloon mission science team, the CSA, and the Contractor regarding the system, sub-system, and interface requirements. This meeting will also be used to assess if the existing design is capable of meeting the requirements based on the current best estimates. The exact date and time of the review meeting will be mutually agreed to.

The specific intent of the Design, Procurement, and Assembly Review Meeting [M2] is to ensure consensus between all key participants including the balloon mission science team, the CSA, and the Contractor regarding the ability of the adjusted design to meet the agreed to requirements. This meeting must occur in before March 31, 2014. The pre-requisite for this meeting is that WP1 and WP2 must be complete, and WP3 must be in progress or complete.

The Assembly, Integration, and Test Review [M3] is to ensure consensus between all key participants including the balloon mission science team, the CSA, and the Contractor regarding the assembly and verification plan of the SHOW instrument. This meeting will also be used to assess the validity of the test plans to demonstrate the required instrument functionality and performance. The exact date and time of the review meeting will be mutually agreed to.

The specific intent of the Pre-Field Campaign Meeting [M4] is to review the verification and test results and to ensure consensus between all key participants including the balloon mission science team, the CSA, and the Contractor on all aspects related to the integration of the assembled SHOW payload on the balloon gondola. This meeting should coincide with instrument delivery to the CSA or York University, as dictated by schedule and resource availability. The date and time of this meeting must be consistent with a balloon launch of August 2014 and allow for sufficient schedule to perform final verifications and instrument calibration prior to flight.

The specific intent of the Post-Flight and Final Review Meeting [FRM] will be to discuss in detail the results obtained. This meeting is intended to provide an opportunity for the Contractor, the CSA, the balloon mission science team, and other invited attendees to review and discuss the project. CSA reserves the right to invite additional knowledgeable individuals [Public Servants or others under Non-Disclosure Agreement (NDA)] to this meeting. Key Contractor personnel involved in the work under review must attend. The exact date and time of the review meeting will be mutually agreed to.

5. Documentation, Reporting, and Deliverables

5.1 Prototypes, Hardware, and Equipment

All prototypes developed during the Contract must be disclosed to Canada and reviewed by the PA who will advise on their final disposal and /or delivery.

The Contractor should also maintain a list of all non-consumable items procured or fabricated under the contract and/or provided by the government. As part of the Final Data Package, the Contractor must complete and submit the Asset Declaration Form found in APPENDIX A-4 of ANNEX A, for which the CSA will issue inventory bar codes at the end of the contract. The Contractor will be notified as to how the assets (equipment) should be handled after the PA and TA have reviewed the list.

Delivery of the flight instrument and associated GSE to the CSA should occur at the Pre-Field Campaign Meeting [M4] and must be consistent with an August 2014 balloon flight, while allowing for sufficient schedule for final verifications and instrument calibration.

5.2 Software

The developed software and associated documentation will be in accordance with the software design standards and/or specifications stated in the proposal. The Contractor must provide an electronic copy of all Contractor documents describing the software development cycle, including user, maintenance and operation manuals. The developed software must also be provided in the form of well-documented source code in computer compatible format, with run-time libraries and executable files.

5.3 Documentation

The Contractor must submit all documentation as defined, and at the date stipulated, in the Contract Data Requirements List (CDRL), seen in Table 5.3.1, to the project authority (PA), and technical authority (TA). All diagrams must be clearly drawn and labeled.

The Contractor must provide the PA and TA with an electronic copy in a format acceptable to the CSA. Documents provided in a PDF format must not be protected against printing of the document or copying of any text or figure.

The cover page of each document must include the following text:

This document is a deliverable under contract no. XXXXXXXXXX. It contains information proprietary to the Canadian Space Agency and the information contained herein is not to be used for any purpose other than to accomplish CSA programs and projects whether they are completely Canadian initiatives or in cooperation with International Partners. The contents of this document are not to be disclosed or transferred in whole or in part, to any third party without the prior written consent of the CSA.

In addition, all internal pages of each document must include the following text:

Use, duplication or disclosure of this document or any of the information contained herein is subject to the Proprietary Notice at the front of this document.

All documents provided to Canada must include the following copyright symbol on both cover page and all the internal pages:

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The Contractor must not publish or have published any information contained within this, without the prior written approval of the CSA.

All documents must identify the organization's name, contract number and title and document name.

CDRL No.	Deliverable	Due Date	Version	DID
1	Meeting Agendas	Meetings – 2 days	Final	0001
2	Kick-Off Meeting Presentation	KOM – 2 days	Final	0002
3	Milestone Meeting presentations	Meetings – 1 week	Final	0003
4	Meeting minutes	Meetings + 2 days	Final	0004
5	Action item logs (AIL)	Meetings + 2 days	Final	0005
6	System Requirements Report	M1 – 1 week	Final	0006
7	Detailed Design Report	M2 – 1 week	Final	0007
8	Assembly Integration and Test Plan	M3 – 1 week	Final	0008
9	Verification and Test Report	M4 – 1 week	Final	0009
10	Interface Control Document	M4 – 1 week	Final	0010
11	Final report	FRM – 2 weeks	Final	0011
12	Executive report	FRM – 2 weeks	Final	0012
13	Final Data Package	FRM – 2 weeks	Final	0013

Table 5.3.1 Contract Data Requirements List (CDRL)

6. Data Item Descriptions (DIDs)

DID-0001 – MEETING AGENDA
 DID-0002 – KICK-OFF MEETING PRESENTATION
 DID-0003 – MEETING PRESENTATION
 DID-0004 – MEETING MINUTES
 DID-0005 – ACTION ITEMS LOG
 DID-0006 – SYSTEM REQUIREMENTS REPORT
 DID-0007 – DETAILED DESIGN REPORT
 DID-0008 – ASSEMBLY INTEGRATION AND TEST PLAN
 DID-0009 – VERIFICATION AND TEST REPORT
 DID-0010 – INTERFACE CONTROL DOCUMENT
 DID-0011 – FINAL REPORT
 DID-0012 – EXECUTIVE REPORT
 DID-0013 – FINAL DATA PACKAGE

DID-0001 – MEETING AGENDA

PURPOSE:

To specify the purpose and content of a meeting.

PREPARATION INSTRUCTIONS:

The Meeting Agendas must contain the following information, as a minimum:

1. Document Header:

- a) Title;
- b) Type of meeting;
- c) Project title, project number, and contract number;
- d) Date, time, and place;
- e) Chairperson; and
- f) Expected duration.

2. Document Body:

- a) Introduction;
- b) Opening Remarks: CSA;
- c) Opening Remarks: Contractor;
- d) Review of previous minutes and all open action items;
- e) Project technical and/or scientific issues;
- f) Project management issues;
- g) Other topics; and
- h) Set or confirm dates of future meetings.

DID-0002 – KICK-OFF MEETING PRESENTATION

PURPOSE:

To present the Contractor's plan for carrying out the project and to address all significant issues.

PREPARATION INSTRUCTIONS:

The Kick-off Meeting Presentation must contain the following information, as a minimum:

1. Review major assumptions
2. Review of contract deliverables;
3. Work requirements, WBS status and schedule;
4. FIP and BIP;
5. Licensing issues if any;
6. Project's funding and expected cash flow;
7. Other items as deemed appropriate;
8. Presentation's slides to include the required copyrights and IP disclosure.

DID-0003 – MEETING PRESENTATION

PURPOSE:

To present the current state of the project and to address all significant issues.

PREPARATION INSTRUCTIONS:

Review Meetings are held periodically throughout the Contract to provide formal opportunities for information exchanges as well as for progress monitoring discussions and decision making. The presentations must contain the following:

1. The contents of the Milestone and/or Progress Report;
2. The current % of completion and accomplishments;
3. The technical work of each task;
4. The current financial status (provide a table indicating planned vs. actual cash flow);
5. The performance results with respect to the PEC;
6. The newly generated IP
7. Discuss relevant results achieved;
8. Project management issues; and
9. Other items as deemed appropriate.
10. Presentation's slides to include the required copyrights and IP disclosure.

DID-0004 – MINUTES OF MEETINGS

PURPOSE:

The minutes of reviews or meetings provide a record of decisions and agreements reached during reviews/meetings.

PREPARATION INSTRUCTIONS:

Minutes of meeting must be prepared for each formal review or meeting and must include the following information, as a minimum:

1. Title page containing the following:
 - a. Title, type of meeting and date,
 - b. Project title, project number, and contract number,
 - c. Space for signatures of the designated representatives of the Contractor and the CSA,
 - d. Name and address of the Contractor;
2. Purpose and objective of the meeting;
3. Location;
4. Agenda;
5. Summary of the discussions, assumptions, decisions and agreements reached;
6. List of the attendees by name, position, phone numbers and e-mail addresses as appropriate;
7. Listing of open action items and responsibility for each action to be implemented as a result of the review;
8. Other data and information as mutually agreed; and
9. The minutes must include the following statement:

“All parties involved in contractual obligations concerning the project acknowledge that minutes of a review/meeting do not modify, subtract from, or add to the obligations of the parties, as defined in the contract.”

The list of action items must include the following information:

1. the action item number;
2. a description of the action required;
3. the date the action item was opened;
4. the person responsible for ensuring that the action is carried out;
5. the due date for the action;
6. the status of the action (open or closed); and
7. any comments or remarks relevant to the action.

Once an action item is closed, the action item list should also indicate the date the action was completed.

DID-0005 – Action Items Log

PURPOSE:

The Action Item Log (AIL) lists, in chronological order, all items on which some action is required, allows tracking of the action, and in the end provides a permanent record of that Action Item (AI).

PREPARATION INSTRUCTIONS:

The AIL must be in a tabular form, with the following headings in this order:

1. Item Number;
2. Red, yellow, green stoplight
3. Item Title;
4. Open Date;
5. Source of AI (e.g. kick-off meeting, etc.);
6. Originator;
7. Office of Prime Interest;
8. Person responsible (for taking action);
9. Target/Actual Date of Resolution;
10. Status (Open or Closed);
11. Remarks; and
12. Chart of graphical representation of open, closed, and total action items.

The date in column 9 will be the target date as long as the item is open, and the actual date once the item is closed.

DID-0006 – SYSTEM REQUIREMENTS REPORT

PURPOSE:

To define the system, sub-system, limb viewing, and interface requirements for the balloon mission. Where appropriate balloon mission requirements should be contrasted with the expectations for a space mission.

PREPARATION INSTRUCTIONS:

The System Requirements Report of the SHOW balloon payload development should be brief, and may be presented in a tabular format where appropriate. It must contain the following information, as a minimum:

1. System Requirements
2. Sub-system requirements
 - a) Functional requirements
 - b) Performance requirements
3. Limb viewing requirements
4. Interface requirements
5. Requirement adjustments anticipated for space mission
6. Preliminary review of current design
 - a) Optical
 - b) Opto-mechanical
 - c) Structural
 - d) Thermal
 - e) Electronic
7. Current best estimates of compliance

DID-0007 – DETAILED DESIGN REPORT

PURPOSE:

To demonstrate the ability of the detailed payload design to meet the agreed to requirements, and facilitate procurement.

PREPARATION INSTRUCTIONS:

The Detailed Design Report of the SHOW balloon payload development must contain the following information, as a minimum:

1. Payload Definition
 - a) Functional block diagram
 - b) FOV trade study
2. Detailed sub-system design
 - a) Optical
 - i. Ray trace (Zemax or Code V)
 - ii. Tolerance analysis
 - iii. Ghost analysis and anti-reflection coatings
 - b) Opto-mechanical
 - i. Mount and compensator designs
 - ii. Survivability of attachment points
 - iii. Optical bench
 - iv. Baffles and coatings
 - c) Structural
 - i. Environmental enclosure (adapters, flanges, entrance window)
 - ii. Survivability of attachment points
 - iii. coatings
 - d) Thermal
 - i. Thermal isolation
 - ii. Thermal controller and temperature sensors
 - iii. Thermal straps
 - e) Electronic
 - i. Telemetry and control
 - ii. Compatibility with operational environment
 - iii. Compatibility with power supply and SIREN module
 - iv. Compatibility with Xenics detector and commercial software
 - v. On-board memory
 - vi. Ground Support Equipment
3. Technical Performance Measures
 - a) Key performance parameters
 - b) Expected performance and estimated compliance
4. Mechanical drawings and manufacturing specifications
5. Fabrication and Integration plan
 - a) Vendor identification
 - b) Schedule
6. Design Recommendations for space mission

DID-0008 – ASSEMBLY INTEGRATION AND TEST PLAN

PURPOSE:

To assess the ability of the assembly, integration, and test plan to demonstrate the agreed to functional and performance requirements

PREPARATION INSTRUCTIONS:

The Assembly Integration and Test Plan of the SHOW balloon payload development must contain the following information, as a minimum:

1. Alignment and Integration plan
 - a) Fore-optics
 - b) SHS integration
 - c) Enclosure, thermal control, and electronics integration
2. Verification plan
 - a) Requirements (operability and performance)
 - b) Lists of optical test with descriptions and linked to applicable requirements
 - i. Fore-optics
 - ii. SHS system
 - c) Analysis techniques and associated equations
 - d) Support equipment
 - e) Operational verification
 - i. Environmental enclosure
 - ii. Thermal control
 - iii. Electronics
 - iv. Detector
 - v. GSE
 - f) Mechanical testing
 - g) TVac testing and thermal cycling

DID-0009 – VERIFICATION AND TEST REPORT

PURPOSE:

To report the results of the assembly, integration, and test plan and assess compliance

PREPARATION INSTRUCTIONS:

The Verification and Test Report of the SHOW balloon payload development must contain the following information, as a minimum:

1. Verification Results
 - a) Requirements (operability and performance)
 - b) Results of optical tests linked to applicable requirements with analysis, and associated equations
 - i. Fore-optics
 - ii. SHS system
 - c) Results of Operational verification
 - i. Environmental enclosure
 - ii. Thermal control
 - iii. Electronics
 - iv. Detector
 - v. GSE
 - d) Results of mechanical testing
 - e) Results of TVac testing and thermal cycling
2. Assessment of Compliance

DID-0010 – INTERFACE CONTROL DOCUMENT

PURPOSE:

To list all interfaces to the SHOW instrument and provide instruction for interfacing the assembled SHOW payload to the CARMEN gondola and the SIREN module. If necessary, this document must also address the any additional interfaces required to perform final laboratory instrument verification and calibration prior to flight.

PREPARATION INSTRUCTIONS:

The Interface and Control Document of the SHOW balloon payload must contain the following information, as a minimum:

1. Resource allocation (mass, power, volume, data rate, etc.)
2. Interface Definitions
 - a) interfaces to environmental enclosure
 - i. mounting points (thermal, structural)
 - ii. vacuum evacuation fixture
 - iii. thermal control adapters
 - iv. detector link flange
 - v. thermal strap
 - vi. thermal and pressure sensors
 - b) interfaces to electronics
 - i. mounting points (thermal, structural)
 - ii. power supply
 - iii. thermal control
 - iv. thermal and pressure sensors
 - v. detector
3. Gondola Integration
 - a) survivability of mounting points
 - b) power supply
 - c) SIREN communication (telemetry and control)
4. Ground support equipment
 - a) software
 - b) vacuum pump
 - c) nitrogen cylinder

DID-0011 – FINAL REPORT

PURPOSE:

To fully describe the technical work performed, problems encountered and achieved objectives.

PREPARATION INSTRUCTIONS:

The Final Report for the Option Period of the SHOW balloon payload development and integration must contain the following information, as a minimum:

II. Concept:

1. System Requirements
 - a) Sub-system requirements
 - i. Functional requirements
 - ii. Performance requirements
 - b) Limb viewing requirements
 - c) Interface requirements
 - d) Adjustments anticipated for space mission
2. Overall concept and Detailed Design:
 - a) Payload definition
 - b) Functional block diagram
 - c) FOV trade study
 - d) Detailed sub-system design
 - i. Optical
 - ii. Opto-mechanical
 - iii. Structural
 - iv. Thermal
 - v. Electronic
 - e) Design Recommendations for space mission
 - f) Performance evaluation criteria
 - i. Key performance parameters
 - ii. Expected performance
 - g) Mechanical drawings and manufacturing specifications
3. Assembly Integration and Test
 - a) Alignment plan
 - i. Fore-optics
 - ii. SHS integration
 - iii. Enclosure, thermal control, and electronics integration
 - b) Verification plan
 - i. Requirements (operability and performance)
 - ii. Lists of optical test with descriptions and applicable requirements
 - iii. Analysis techniques and associated equations
 - iv. Support equipment
 - v. Operational verification
 - vi. mechanical testing
 - vii. TVac testing
 - c) Test results and compliance assessment
4. Interface Definition
 - a) Resource allocation (mass, power, volume, data rate, etc.)
 - b) interfaces to environmental enclosure
 - c) interfaces to electronics
 - d) Gondola integration
 - i. Thermal
 - ii. Structural

- iii. Power and electronic
- e) SIREN communication (telemetry and control)
- f) GSE
- 5. TRL Assessment
 - a) Technology development strategy

III. Cost

- 1. Rough order of magnitude of cost for space mission (including launch cost);
- 2. Estimate of Canadian content:
 - a) Percentage of Canadian content,
 - b) Options to maximize the Canadian content, and
 - c) Impacts and benefits to undertake the options;
- 3. Business potential;
- 4. FIP generated.

DID-0012-EXECUTIVE REPORT

PURPOSE:

To fully describe the entire project for dissemination in the public domain.

PREPARATION INSTRUCTIONS:

The Executive Report will be placed in the public domain (e.g. CSA's library, publication and/or website).

The report should not exceed ten (10) pages. The Contractor must submit an electronic copy plus one (1) hard copy of the Executive Report in the Final Data Package.

The Executive Report must contain the following information, as a minimum:

1. Introduction (~2 pages):
Presentation of overall concept and main objectives. Illustrative picture(s) should be included;
2. Concept Overview (2-3 pages):
Discussion on main mission requirements, interface definition and feasibility;
3. Technology (~1 page):
Description of the innovative technologies or required technology development;
4. Roadmap, Cost and Implementation (2-3 pages):
Schedule, Roadmap with TRL, overall cost category. For the cost, the following categories must be used:
 - > \$ 200 M
 - \$ 75 M - \$ 200 M
 - \$ 20 M - \$ 75 M
 - \$ 5 M - \$ 20 M
 - \$ 1 M - \$ 5 M
 - < \$ 1 M
5. Business Potential (~1 page):
Business potential, Canadian capabilities development.

The CSA and the Contractor, or others designated by them, have the right to unrestricted reproduction and distribution of the Executive Report. The report must include the following proprietary notice:

Owner of FIP is the Crown. ©**Government of Canada, 201X**
Permission is granted to reproduce this document provided that written acknowledgement to the Canadian Space Agency is made.

DID-0013-FINAL DATA PACKAGE

PURPOSE:

The Final Data Package is a collection of all documents to be presented by the Contractor at the end of the contract.

PREPARATION INSTRUCTIONS:

The Final Data Package must consist of the final/revised version of all deliverables requested under the present contract (electronic copy). For example, with no limitation, the final data package should include the Detailed Design Report, the Final Report, the Executive Report, supporting software, presentations, minutes, and other required deliverables in their final revision.

7. CONTRACTOR DISCLOSURE OF INTELLECTUAL PROPERTY

At the end of the contract, a list and descriptions of all BIP required for CSA use of the FIP must be provided in the Final Data Package and reviewed at the Final Review Meeting. A list and description of all FIP resulting from project work must also be provided. Furthermore, the Contractor will complete and submit as a stand-alone document entitled "Contractor Disclosure of Intellectual Property", provided in APPENDIX A-3 of ANNEX A.

The Contractor must submit an electronic copy of the Contractor Disclosure of Intellectual Property.

8. FORMS

The Report Documentation Page (see Appendix A-2 of Annex A) should be included in both the Executive Report and the Final Report.

As part of the Final Data Package, the Contractor must complete and submit the Asset Declaration Form in Appendix A-4 of ANNEX A, for which CSA will issue inventory bar codes at the end of the contract. The Contractor will be notified as to how the assets (prototypes and equipment) should be handled after the PA and TA have reviewed the list.

Also, the Disclosure of Intellectual Property (APPENDIX A-3 of ANNEX A) must be completed by the Contractor and submitted as part of the Final Data Package.

List of Appendices

Appendix A-1	Technology Readiness Levels (TRLs)
Appendix A-2	Report Documentation Page
Appendix A-3	Contractor Disclosure of Intellectual Property
Appendix A-4	Asset Declaration Form - Prototypes and Equipment

APPENDIX A-1 - TECHNOLOGY READINESS LEVELS (TRLs)

Source: RD-1 (CSA-ST-GDL-0001 Revision A - Technology Readiness Assessment Guidelines)

Readiness Level	Definition	Explanation
TRL 1	Basic principles observed and reported	Lowest level of technology readiness. Scientific research begins to be translated into applied research and development.
TRL 2	Technology concept and/or application formulated	Once basic principles are observed, practical applications can be invented and R&D started. Applications are speculative and may be unproven.
TRL 3	Analytical and experimental critical function and/or characteristic proof-of-concept	Active research and development is initiated, including analytical / laboratory studies to validate predictions regarding the technology.
TRL 4	Component and/or breadboard validation in laboratory environment	Basic technological components are integrated to establish that they will work together.
TRL 5	Component and/or breadboard validation in relevant environment	The basic technological components are integrated with reasonably realistic supporting elements so it can be tested in a simulated environment.
TRL 6	System/subsystem model or prototype demonstration in a relevant environment (ground or space)	A representative model or prototype system is tested in a relevant environment.
TRL 7	System prototype demonstration in a space environment	A prototype system that is near, or at, the planned operational system.
TRL 8	Actual system completed and "flight qualified" through test and demonstration (ground or space)	In an actual system, the technology has been proven to work in its final form and under expected conditions.
TRL 9	Actual system "flight proven" through successful mission operations	The system incorporating the new technology in its final form has been used under actual mission conditions.

Table A-1-1: Definition of Technology Readiness Levels

APPENDIX A-2 - REPORT DOCUMENTATION PAGE

Canadian Space Agency Agence spatiale canadienne	REPORT DOCUMENTATION PAGE	
Report Date:		
Title:		
Author(s):		
Performing Organization(s) Name and Address(es):		
Contract # and Title:		
Sponsoring Agency Name(s) and Address(es): Canadian Space Agency 6767 Route de l'Aéroport Saint-Hubert, Québec, Canada J3Y 8Y9 Tel: (450) 926-4800 Fax: (450) 926-4613		
Scientific Authority:		
Project Manager:		
Abstract:		
Key Words:		
Supplementary Notes:		
Distribution/Availability:		

Table A-2-1: Template for Report Documentation Page

APPENDIX A-3 - Contractor Disclosure of Intellectual Property

Background Intellectual Property (BIP)

Before contract closure, the Contractor must review its BIP disclosure and update the information provided as part of the Contractor’s proposal. For the purpose of updating the BIP information, Table A-3-1 below is provided and must be filled out.

Table A-3-1 requires that each of the following be provided for each BIP:

- BIP #: simply assign a sequential number to each BIP in the table;
- Title of the BIP: provide a descriptive title of the BIP;
- Type of BIP: specify if the BIP relates to software algorithms, hardware design, invention patent, or other;
- Type of BIP access: describe the type of access to the BIP that was required in order to use, modify, improve and further develop the FIP;
- BIP Description: provide an explicit and detailed description of the BIP (refer to pertinent sections of the Technical Report, if necessary).
- Reference Documentation: specify if the documentation referred to was a technical report, design document, test results, other;
- Origin of the BIP: specify if the BIP originated from internal R&D, collaborative project, a specific contract, other; and
- Owner of the BIP: provide names and addresses of the owner of the BIP (contractor, subcontractor or Canada).

BIP #	Title of the BIP	Types of BIP	Type of access	BIP Description	Reference Documentation	Origin of the BIP	Owner of the BIP

Table A-3-1: Disclosure of actual Background Intellectual Property (BIP) used for the Contract

Please specify the name and the position of the person approving/authorizing this disclosure. This person is to sign and date the disclosure. The following notice must be visible at the top of every page of the BIP disclosure:

"Use, duplication or disclosure of this document or any of the information contained in this document, in whole or in part, without the prior written permission of "Owner of BIP" is expressly prohibited."

Foreground Intellectual Property (FIP)

In addition to the BIP disclosure, the Contractor must respond to the following for each FIP element (Table A-3-2 below must be filled out).

- FIP #: simply assign a sequential number to each FIP in the table;
- Title of FIP: provide a descriptive title of the FIP;
- Type of FIP: specify if the FIP relates to copyright, invention, design, software, know-how, trade secret, algorithms, other;
- FIP Description: provide an explicit and detailed description of the FIP (refer to pertinent sections of the Technical Report, if necessary).
- Reference Documentation: specify if the documentation referred to was a technical report, design document, test results, other;
- Owner of the FIP: provide names and addresses of the owner of the FIP (contractor, subcontractor, or the Canada).

FIP #	Title of FIP	Type of FIP	FIP Description	Reference Documentation	Owner of the FIP*

Table A-3-2: Disclosure of the Foreground Intellectual Property (FIP) developed under the Contract

If Canada is the owner of the FIP, the Contractor must complete Table A-3-3 below and provide the following information:

- FIP #: simply assign a sequential number to each FIP in the table;
- Title of FIP: provide a descriptive title of the FIP;
- FIP Description: provide an explicit and detailed description as well as aspects that are novel, useful and non obvious;
- Limitation: Provide limitations or drawback of the FIP;
- References: Provide references in literature or patents pertaining to the FIP;
- Has the FIP been prototyped, tested or demonstrated (e.g., analytically, simulation, hardware)? If so, provide results;
- Inventors: Provide name, coordinates and company of inventor(s) – (e.g., the person(s) who created the FIP); and
- IP Disclosure: Was the FIP or any element declared, disclosed to other parties? If so, when, where, to whom?

FIP #	Title of FIP	FIP Description	Limitations or drawback	References	Has the FIP been prototyped, tested or demonstrated	Inventors	IP Disclosure

Table A-3-3: Canadian Owned FIP Additional Information

Provide the name and the position of the person approving/authorizing this disclosure. This person is to sign and date the disclosure.

This following notice must be visible at the top of every page of the FIP disclosure:

"Use, duplication or disclosure of this document or any of the information contained in this document, in whole or in part, without the prior written permission of "Owner of FIP" or the government of Canada is expressly prohibited."

APPENDIX A-4 - ASSET DECLARATION FORM - PROTOTYPES AND EQUIPMENT

Equipment Declaration: The Contractor must fill out the following form so as to identify all equipment procured under this contract.

Equipment #	Equipment description	Inventory #	Acquisition Value	Currency	Acquisition date	Manufacturer	Country	Model #	Serial #

Table A-4-1: Equipment Declaration Form

Prototype List: The Contractor must provide a list of all prototypes developed under this contract.

Prototype Name	Prototype description

Table A-4-2: Prototype Declaration Form

The decision regarding the delivery of any prototype is to be made by the CSA at the end of each contract completion
Note: Canada may reserve the right not to request compensation or replacement of government-furnished equipment (GFE) if the use of the said equipment is an integral part of the proposed research and development study or work



ANNEX B

PRICING



PRICING TABLE

The Contractor will be paid firm hourly or daily rates as follows, for work performed in accordance with the Contract. Applicable Taxes are extra.

Initial Contract Period		
Category Name (if applicable)	Estimated Level of effort	Firm Hourly or daily Rate
Total Estimated Cost:		
<p>Travel and living expenses in accordance with:</p> <p>a) The Treasury Board Travel Directive, Appendices B, C and D http://www.njc-cnm.gc.ca/directive/index.php?did=10&lang=eng&merge=2, and</p> <p>b) The "Special Travel Authorities" Directive, Section 7 for "Persons on contract" http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/sta-eng.asp :</p> <p>The contractor will be reimbursed for authorized travel and living expenses reasonably and properly incurred in the performance of the Work, with no allowance for profit and/or administrative, upon presentation of supporting documentation except for meals, mileage and incidentals which will be reimbursed without receipts in accordance with the allowances specified in Appendices B, C and D.</p> <p>The department will reimburse Contractors up to full-fare economy class only, upon presentation of an electronic ticket receipt indicating the class and price of the ticket.</p> <p><u>All travel must have the prior authorization of the technical authority</u></p>		
Total Estimated Cost:		
<p>Other Direct Expenses</p> <p>The Contractor will be reimbursed for the direct expenses reasonably and properly incurred in the performance of the Work. These expenses will be paid at actual cost without mark-up, upon submission of an itemized statement supported by receipt vouchers.</p>		
Total Estimated Cost:		



Option Contract Period		
Category Name (if applicable)	Estimated Level of effort	Firm Hourly or daily Rate
<p>Travel and living expenses in accordance with:</p> <p>a) The Treasury Board Travel Directive, Appendices B, C and D http://www.njc-cnm.gc.ca/directive/index.php?did=10&lang=eng&merge=2, and</p> <p>b) The "Special Travel Authorities" Directive, Section 7 for "Persons on contract" http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/sta-eng.asp :</p> <p>The contractor will be reimbursed for authorized travel and living expenses reasonably and properly incurred in the performance of the Work, with no allowance for profit and/or administrative, upon presentation of supporting documentation except for meals, mileage and incidentals which will be reimbursed without receipts in accordance with the allowances specified in Appendices B, C and D.</p> <p>The department will reimburse Contractors up to full-fare economy class only, upon presentation of an electronic ticket receipt indicating the class and price of the ticket.</p> <p><u>All travel must have the prior authorization of the technical authority</u></p>		
Total Estimated Cost:		
Other Direct Expenses		
<p>The Contractor will be reimbursed for the direct expenses reasonably and properly incurred in the performance of the Work. These expenses will be paid at actual cost without mark-up, upon submission of an itemized statement supported by receipt vouchers.</p>		
Total Estimated Cost:		



ANNEX "C" - PERFORMANCE EVALUATION REPORT																
Upon fulfillment of a contract, this questionnaire must be completed by the responsible project authority																
Name of contractor:					Contract completion date:											
Name of project authority					Branch:											
Contract no.:					Project name:											
Supplier																
Rating scale:					10 à 9 = Excellent			6 à 5 = Satisfactory			2 à 1 = Unsatisfactory					
					8 à 7 = Very Good			4 à 3 = Poor								
1) Did the supplier provide consultants with the education, accreditation and experience indicated in the contract?					10	9	8	7	6	5	4	3	2	1	Comments:	
2) Please rate the overall quality of the services provided by this supplier.					10	9	8	7	6	5	4	3	2	1	Comments:	
3) Please rate the responsiveness of the supplier with regard to information requests or problems that may have arisen in the course of the contract, and the supplier's ability to meet deadlines.					10	9	8	7	6	5	4	3	2	1	Comments:	
4) Was the work performed in accordance with the requirements specified in the statement of work?					10	9	8	7	6	5	4	3	2	1	Comments:	
5) Please rate the quality of communication between the department and the supplier.					10	9	8	7	6	5	4	3	2	1	Comments:	
6) Were all administrative documents received in accordance with the requirements of the contract? Administrative documents can include but are not limited to: <ul style="list-style-type: none"> • Invoices • Progress reports • Reports on use or business volume • Meeting agendas and minutes • Documentation and quality of work 					10	9	8	7	6	5	4	3	2	1	Comments:	
Total /60					Excellent: 54 et 60			Poor: 18 à 29								
					Very Good: 42 à 53			Unsatisfactory: 18 or less								
					Satisfactory: 30 à 41											
Signatures Bloc - Evaluation Excellent, Very good or Satisfactory																

 Project Authority

 Contract Agent:

Signatures Bloc - Evaluation Poor or Unsatisfactory

 Technical Expert

 Supply Manager: