



**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:**

**Bid Receiving - PWGSC / Réception des
soumissions - TPSGC**
11 Laurier St. / 11, rue Laurier
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

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

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

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

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

Comments - Commentaires

Vendor/Firm Name and Address

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

Issuing Office - Bureau de distribution

Defence Communications Division. (QD)
11 Laurier St./11, rue Laurier
Place du Portage, Phase III, 8C2
Gatineau, Québec K1A 0S5

Title - Sujet Des récepteurs radio	
Solicitation No. - N° de l'invitation W7714-186599/A	Date 2018-06-05
Client Reference No. - N° de référence du client W7714-186599	
GETS Reference No. - N° de référence de SEAG PW-\$\$QD-041-26853	
File No. - N° de dossier 041qd.W7714-186599	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-06-28	Time Zone Fuseau horaire Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Williams, Laura	Buyer Id - Id de l'acheteur 041qd
Telephone No. - N° de téléphone (873) 469-3174 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATIONAL DEFENCE BLDG 29 RECEIVING 3701 CARLING AVE OTTAWA Ontario K1A0Z4 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

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

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PART 1 - GENERAL INFORMATION

1.1 Security Requirements

There is no security requirement associated with this bid solicitation.

1.2 Requirement

The requirement is detailed under Annex B, Statement of Work and Appendix B Statement of Requirement.

1.3 Debriefings

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

1.4 Trade Agreements

The requirement is subject to the provisions of the Canadian Free Trade Agreement (CFTA).

1.5 Phased Bid Compliance Process

The Phased Bid Compliance Process applies to this requirement.

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

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

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

The [2003](#) (2017-04-27) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of [2003](#), Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days

Insert: 90 days

2.2 Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

2.2.1 Improvement of Requirement During Solicitation Period

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

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than five (5) calendar days before the bid closing date. Enquiries received after that time may not be answered.

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

2.4 Applicable Laws

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

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

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

If the Bidder chooses to submit its bid electronically, Canada requests that the Bidder submits its bid in accordance with section 8 of the 2003 standard instructions and as amended in Part 2 - Bidder Instructions, Article 2.1 Standard Instructions, Clauses and Conditions. Bidders are required to provide their bid in a single transmission. The epost Connect service has the capacity to receive multiple documents, up to 1GB per individual attachment.

The bid must be gathered per section and separated as follows:

- Section I: Technical Bid
- Section II: Financial Bid
- Section III: Certifications
- Section IV: Additional Information

If the Bidder is simultaneously providing a hard copy of the bid using another acceptable delivery method, and if there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the soft copy will have priority over the wording of the hard copy.

If the Bidder chooses to submit its bid in hard copies, Canada requests that the Bidder submits its bid in separately bound sections as follows:

- Section I: Technical Bid (2 hard copies)
- Section II: Financial Bid (1 hard copy)
- Section III: Certifications (1 hard copy)
- Section IV: Additional Information (1 hard copy)

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

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

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with Annex A, Basis of Payment.

3.1.2 Exchange Rate Fluctuation

[C3011T](#) (2013-11-06), Exchange Rate Fluctuation

Section III: Certifications

Bidders must submit the certifications and additional information required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.
- (c) Canada will use the Phased Bid Compliance Process described below.

4.1.1 Phased Bid Compliance Process

4.1.1.1 General

- (a) Canada is conducting the PBCP described below for this requirement.
- (b) Notwithstanding any review by Canada at Phase I or II of the PBCP, Bidders are and will remain solely responsible for the accuracy, consistency and completeness of their Bids and Canada does not undertake, by reason of this review, any obligations or responsibility for identifying any

or all errors or omissions in Bids or in responses by a Bidder to any communication from Canada.

THE BIDDER ACKNOWLEDGES THAT THE REVIEWS IN PHASE I AND II OF THIS PBCP ARE PRELIMINARY AND DO NOT PRECLUDE A FINDING IN PHASE III THAT THE BID IS NON-RESPONSIVE, EVEN FOR MANDATORY

REQUIREMENTS WHICH WERE SUBJECT TO REVIEW IN PHASE I OR II AND NOTWITHSTANDING THAT THE BID HAD BEEN FOUND RESPONSIVE IN SUCH EARLIER PHASE. CANADA MAY DEEM A BID TO BE NON-RESPONSIVE TO A MANDATORY REQUIREMENT AT ANY PHASE.

THE BIDDER ALSO ACKNOWLEDGES THAT ITS RESPONSE TO A NOTICE OR A COMPLIANCE ASSESSMENT REPORT (CAR) (EACH DEFINED BELOW) IN PHASE I OR II MAY NOT BE SUCCESSFUL IN RENDERING ITS BID RESPONSIVE TO THE MANDATORY REQUIREMENTS THAT ARE THE SUBJECT OF THE NOTICE OR CAR, AND MAY RENDER ITS BID NON-RESPONSIVE TO OTHER MANDATORY REQUIREMENTS.

- (c) Canada may, in its discretion, request and accept at any time from a Bidder and consider as part of the Bid, any information to correct errors or deficiencies in the Bid that are clerical or administrative, such as, without limitation, failure to sign the Bid or any part or to checkmark a box in a form, or other failure of format or form or failure to acknowledge; failure to provide a procurement business number or contact information such as names, addresses and telephone numbers; inadvertent errors in numbers or calculations that do not change the amount the Bidder has specified as the price or of any component thereof that is subject to evaluation. This shall not limit Canada's right to request or accept any information after the bid solicitation closing in circumstances where the bid solicitation expressly provides for this right. The Bidder will have the time period specified in writing by Canada to provide the necessary documentation. Failure to meet this deadline will result in the Bid being declared non-responsive.
- (d) The PBCP does not limit Canada's rights under Standard Acquisition Clauses and Conditions (SACC) 2003 (2017-04-27) Standard Instructions – Goods or Services – Competitive Requirements nor Canada's right to request or accept any information during the solicitation period or after bid solicitation closing in circumstances where the bid solicitation expressly provides for this right, or in the circumstances described in subsection (c).
- (e) Canada will send any Notice or CAR by any method Canada chooses, in its absolute discretion. The Bidder must submit its response by the method stipulated in the Notice or CAR. Responses are deemed to be received by Canada at the date and time they are delivered to Canada by the method and at the address specified in the Notice or CAR. An email response permitted by the Notice or CAR is deemed received by Canada on the date and time it is received in Canada's email inbox at Canada's email address specified in the Notice or CAR. A Notice or CAR sent by Canada to the Bidder at any address provided by the Bidder in or pursuant to the Bid is deemed received by the Bidder on the date it is sent by Canada. Canada is not responsible for late receipt by Canada of a response, however caused.

4.1.1.2 Phase I: Financial Bid

- (a) After the closing date and time of this bid solicitation, Canada will examine the Bid to determine whether it includes a Financial Bid and whether any Financial Bid includes all information required by the solicitation. Canada's review in Phase I will be limited to identifying whether any information that is required under the bid solicitation to be included in the Financial Bid is missing

from the Financial Bid. This review will not assess whether the Financial Bid meets any standard or is responsive to all solicitation requirements.

- (b) Canada's review in Phase I will be performed by officials of the Department of Public Works and Government Services.
- (c) If Canada determines, in its absolute discretion that there is no Financial Bid or that the Financial Bid is missing all of the information required by the bid solicitation to be included in the Financial Bid, then the Bid will be considered non-responsive and will be given no further consideration.
- (d) For Bids other than those described in c), Canada will send a written notice to the Bidder ("Notice") identifying where the Financial Bid is missing information. A Bidder, whose Financial Bid has been found responsive to the requirements that are reviewed at Phase I, will not receive a Notice. Such Bidders shall not be entitled to submit any additional information in respect of their Financial Bid.
- (e) The Bidders who have been sent a Notice shall have the time period specified in the Notice (the "Remedy Period") to remedy the matters identified in the Notice by providing to Canada, in writing, additional information or clarification in response to the Notice. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the Notice.
- (f) In its response to the Notice, the Bidder will be entitled to remedy only that part of its Financial Bid which is identified in the Notice. For instance, where the Notice states that a required line item has been left blank, only the missing information may be added to the Financial Bid, except that, in those instances where the addition of such information will necessarily result in a change to other calculations previously submitted in its Financial Bid, (for example, the calculation to determine a total price), such necessary adjustments shall be identified by the Bidder and only these adjustments shall be made. All submitted information must comply with the requirements of this solicitation.
- (g) Any other changes to the Financial Bid submitted by the Bidder will be considered to be new information and will be disregarded. There will be no change permitted to any other Section of the Bidder's Bid. Information submitted in accordance with the requirements of this solicitation in response to the Notice will replace, in full, **only** that part of the original Financial Bid as is permitted above, and will be used for the remainder of the bid evaluation process.
- (h) Canada will determine whether the Financial Bid is responsive to the requirements reviewed at Phase I, considering such additional information or clarification as may have been provided by the Bidder in accordance with this Section. If the Financial Bid is not found responsive for the requirements reviewed at Phase I to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase I to the satisfaction of Canada, will receive a Phase II review.

4.1.1.3 Phase II: Technical Bid

- (a) Canada's review at Phase II will be limited to a review of the Technical Bid to identify any instances where the Bidder has failed to meet any Eligible Mandatory Criterion. This review will not assess whether the Technical Bid meets any standard or is responsive to all

solicitation requirements. Eligible Mandatory Criteria are all mandatory technical criteria that are identified in this solicitation as being subject to the PBCP. Mandatory technical criteria that are not identified in the solicitation as being subject to the PBCP, will not be evaluated until Phase III.

- (b) Canada will send a written notice to the Bidder (Compliance Assessment Report or "CAR") identifying any Eligible Mandatory Criteria that the Bid has failed to meet. A Bidder whose Bid has been found responsive to the requirements that are reviewed at Phase II will receive a CAR that states that its Bid has been found responsive to the requirements reviewed at Phase II. Such Bidder shall not be entitled to submit any response to the CAR.
- (c) A Bidder shall have the period specified in the CAR (the "Remedy Period") to remedy the failure to meet any Eligible Mandatory Criterion identified in the CAR by providing to Canada in writing additional or different information or clarification in response to the CAR. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the CAR.
- (d) The Bidder's response must address only the Eligible Mandatory Criteria listed in the CAR as not having been achieved, and must include only such information as is necessary to achieve such compliance. Any additional information provided by the Bidder which is not necessary to achieve such compliance will not be considered by Canada, except that, in those instances where such a response to the Eligible Mandatory Criteria specified in the CAR will necessarily result in a consequential change to other parts of the Bid, the Bidder shall identify such additional changes, provided that its response must not include any change to the Financial Bid.
- (e) The Bidder's response to the CAR should identify in each case the Eligible Mandatory Criterion in the CAR to which it is responding, including identifying in the corresponding section of the original Bid, the wording of the proposed change to that section, and the wording and location in the Bid of any other consequential changes that necessarily result from such change. In respect of any such consequential change, the Bidder must include a rationale explaining why such consequential change is a necessary result of the change proposed to meet the Eligible Mandatory Criterion. It is not up to Canada to revise the Bidder's Bid, and failure of the Bidder to do so in accordance with this subparagraph is at the Bidder's own risk. All submitted information must comply with the requirements of this solicitation.
- (f) Any changes to the Bid submitted by the Bidder other than as permitted in this solicitation, will be considered to be new information and will be disregarded. Information submitted in accordance with the requirements of this solicitation in response to the CAR will replace, in full, **only** that part of the original Bid as is permitted in this Section.

- (g) Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Canada in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Criteria. It will not be used at any Phase of the evaluation to increase or decrease any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Criterion that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Bidder in response to the CAR. If so, the Bid will be considered responsive in respect of such Eligible Mandatory Criterion, and the additional or different information submitted by the Bidder shall bind the Bidder as part of its Bid, but the Bidder's original score, which was less than the mandatory minimum for such Eligible Mandatory Criterion, will not change, and it will be that original score that is used to calculate any score for the Bid
- (h) Canada will determine whether the Bid is responsive for the requirements reviewed at Phase II, considering such additional or different information or clarification as may have been provided by the Bidder in accordance with this Section. If the Bid is not found responsive for the requirements reviewed at Phase II to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase II to the satisfaction of Canada, will receive a Phase III evaluation.

4.1.1.4 Phase III: Final Evaluation of the Bid

- (a) In Phase III, Canada will complete the evaluation of all Bids found responsive to the requirements reviewed at Phase II. Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) A Bid is non-responsive and will receive no further consideration if it does not meet all mandatory evaluation criteria of the solicitation.

4.1.2 Technical Evaluation

4.1.2.1 Mandatory Technical Criteria

CRITERIA	
M1	Bidder Corporate Experience The Bidder must have completed, within ten years prior to the closing date of the RFP, at least three projects each in radiofrequency that relate to the Statement of Work of which one must have a minimum value of \$400k excluding taxes. The Bidder must demonstrate its corporate experience by submitting at minimum the following information for each project: a) Project title; b) Organization for which the work was completed; c) Project start and end dates;

	<p>d) Outline of the Bidder's role within the project and work completed;</p> <p>e) Details of the radiofrequency work and explanation of how that work relates to the Statement of Work;</p> <p>f) Value of each project; and</p> <p>g) A reference for each project who can confirm and validate the information provided.</p> <p>For each reference provided, the Bidder must provide valid contact information so that Canada may, at its sole discretion, contact the reference to confirm the information provided is factual. The contact information must include the name and address of the company, Department or Agency to whom the service was provided and the name, title and telephone number of a contact within the Company that can verify the information.</p>
M2	<p>Bidder Corporate Organizational Structure</p> <p>The Bidder's proposal must identify the proposed team that will complete the work identified in the Statement of Work. The proposed team must be comprised of at least one Project Manager and one Systems Engineering Lead.</p> <p>As a minimum, the following information must be provided for each proposed team member:</p> <p>a) Name and title;</p> <p>b) Title, role and responsibility for the work to be completed (Statement of Work);</p> <p>c) Role and responsibility within the corporate organizational structure;</p> <p>d) Work experience demonstrating how the individual's experience relates to the work to be completed (Statement of Work).</p>
M3	<p>Project Management Documentation</p> <p>The Bidder must submit a Project Management Plan and a Risk Management Plan that outlines its approach and methodology to complete the work identified in the Statement of Work.</p>
M4	<p>Project Technical Documentation</p> <p>The Bidder must demonstrate how it will satisfy the technical requirements of the Statement of Requirements by submitting a paragraph-by-paragraph description of how the Bidder will satisfy the requirement that must be supported with each of the following:</p> <p>a) A Design concept</p> <p>b) An analysis of the approximate power requirements</p>

The Phased Bid Compliance Process will apply to all mandatory technical criteria.

4.1.3 Financial Evaluation

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded. Prices submitted in foreign currency will be converted into Canadian dollars based on the exchange rate provided by the Bank of Canada at 16:30 Eastern Time (ET) on the RFP solicitation period closing date and the resulting conversion values will be used for the evaluation.

SACC Manual Clause [A0222T](#) (2014-06-26), Evaluation of Price

4.2 Basis of Selection - Mandatory Technical Criteria

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

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

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

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

5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real procurement agreement of the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#) website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

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 titled 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.

5.2.3 SACC Manual Clause [A0035T](#) (2010-08-16), Status and Availability of Resources

PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

6.1 Security Requirements

There is no security requirement applicable to the Contract.

6.2 Requirement

The requirement is detailed under Annex B, Statement of Work and Appendix B Statement of Requirement.

6.3 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](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

6.3.1 General Conditions

[2010A](#) (2016-04-04), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

6.3.2 Supplemental General Conditions

4006 (2010-08-16) Contractor to Own Intellectual Property Rights in Foreground Information, apply to and form part of the Contract.

6.4 Term of Contract

6.4.1 Delivery Date

All the deliverables must be received on or before February 1, 2019.

6.4.2 Option to Extend the Contract

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to one additional one year period under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least 30 calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.

6.4.3 Delivery - Option Quantity

The delivery of the option quantity must be received within 7 months of the option being exercised.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Laura Williams
Supply Team Leader
Public Works and Government Services Canada
Acquisitions Branch
Defence Communications Division (QD-RA)
Place du Portage, Phase III, 8C2-63
11 Laurier Street, Gatineau, QC K1A 0S2

Telephone: (873) 469-3174
Facsimile: (819) 956-0636
E-mail address: laura.williams@tpsgc-pwgsc.gc.ca

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

6.5.2 Procurement Authority

The Procurement Authority for the Contract is:

(to be advised at Contract)

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

6.5.3 Technical Authority

The Technical Authority for the Contract is:

(to be advised at Contract)

Solicitation No. - N° de l'invitation
W7714-186599/A
Client Ref. No. - N° de réf. du client
W7714-186599

Amd. No. - N° de la modif.
File No. - N° du dossier
041qd.W7714-186599

Buyer ID - Id de l'acheteur
041QD
CCC No./N° CCC - FMS No./N° VME

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

6.5.4 Contractor's Representative

The person responsible for:

General enquiries

Name: _____
Telephone No.: _____
Facsimile No.: _____
E-mail address: _____

Delivery follow-up

Name: _____
Telephone No.: _____
Facsimile No.: _____
E-mail address: _____

6.6 Payment

6.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price, as specified in Annex A for a cost of \$ (to be inserted at contract award). Customs duties are included and Applicable Taxes are extra.

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

6.6.2 Limitation of Price

SACC Manual clause C6000C (2017-08-17) Limitation of Price

6.6.3 SACC Manual Clauses

H1000C 2008/05/12 Single Payment

6.7 Invoicing Instructions

1. 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.
2. Invoices must be distributed as follows:
 - a. The original and one (1) copy must be forwarded to the consignee for certification and payment.
 - b. One (1) copy must be forwarded to the Contracting Authority and the Procurement Authority identified under the section entitled "Authorities" of the Contract.

6.8 Certifications and Additional Information

6.8.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

6.8.2 Federal Contractors Program for Employment Equity - Default by the Contractor

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "[FCP Limited Eligibility to Bid](#)" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

6.9 Applicable Laws

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

6.10 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) 2010A (2016-04-04) General Conditions – Goods (Medium Complexity);
- (c) 4006 (2010-08-16) Contractor to Own Intellectual Property Rights in Foreground Information;
- (d) Annex B, Statement of Work
- (e) Appendix B Statement of Requirement;
- (f) the Contractor's bid dated _____

6.11 Defence Contract

SACC *Manual* clause [A9006C](#) (2012-07-16) Defence Contract

6.12 Shipping Instructions

6.12a Shipping Instructions (Department of National Defence) - Canadian-based Contractor

1. Delivery will be FCA Free Carrier at _____ (*Insert the named place, e.g. Contractor's facility*) Incoterms 2000. The Contractor must load the goods onto the carrier designated by the Department of National Defence (DND). Onward shipment from the delivery point to the consignee will be Canada's responsibility.
2. Before shipping the goods, the Contractor must contact the following DND Inbound Logistics Coordination Center by facsimile or e-mail, to arrange for shipment, and provide the information detailed at paragraph 3.

(Details of DND Inbound Logistics Coordination Center will be inserted at contract award when the location of the Contractor is known.)

3. The Contractor must provide the following information to the DND Inbound Logistics Coordination Center when arranging for shipment:
 - a. the Contract number;
 - b. consignee address (for multiple addresses, items must be packaged and labelled separately with each consignee address);
 - c. description of each item;
 - d. the number of pieces and type of packaging (i.e., carton, crate, drum, skid);
 - e. actual weight and dimensions of each piece type, including gross weight;
 - f. full details of dangerous goods/hazardous products, as required for the applicable mode of transportation, signed certificates for dangerous goods/hazardous products as required for shipment by the International Maritime Dangerous Goods Code, the International Air Transport Association regulations or the applicable Canadian [Transportation of Dangerous Goods Regulations](#), and a copy of the safety data sheet in English and French.
4. Following receipt of this information by Canada, Canada will provide the appropriate shipping instructions, which may include the requirement for specific consignee address labelling, and the marking of each piece with a Transportation Control Number.
5. The Contractor must not ship the goods before receiving shipping instructions from the DND Inbound Logistics contact.
6. If the Contractor delivers the goods at a place and time which are not in accordance with the given delivery instructions or fail to fulfill reasonable delivery instructions given by Canada, the Contractor must reimburse Canada any additional expenses and costs incurred.
7. If Canada is responsible for delays in delivering the goods, ownership and risk will be transferred to Canada upon expiry of either 30 days following the date on which a duly completed shipping application is received by Canada or by its appointed forwarding agent, or 30 days following the delivery date specified in the Contract, whichever is later.

6.12b Shipping instructions (Department of National Defence): Foreign-based contractors

1. Delivery will be FCA Free Carrier at _____ (*insert the named place, e.g. Contractor's facility*) Incoterms 2000. The Contractor must load the goods onto the carrier designated by the Department of National Defence (DND). Onward shipment from the delivery point to the consignee will be Canada's responsibility

2. Before shipping the goods, the Contractor must contact the following DND Inbound Logistics Coordination Center by facsimile or e-mail, to arrange for shipment, and provide the information detailed at paragraph 3.

(Details of DND Inbound Logistics Coordination Center will be inserted at contract award when the location of the Contractor is known.)

3. The Contractor must provide the following information to the DND Inbound Logistics contact when arranging for shipment:
 - a. the Contract number;
 - b. consignee address (if multiple addresses, items must be packaged and labeled separately with each consignee address);
 - c. description of each item;
 - d. the number of pieces and type of packaging (e.g. carton, crate, drum, skid);
 - e. actual weight and dimensions of each piece type, including gross weight;
 - f. copy of the commercial invoice (in accordance with clause [C2608C](#), section 4, of the [Standard Acquisition Clauses and Conditions Manual](#)) or a copy of the Canada Border Services Agency form C11 [Canada Customs Invoice](#) (PDF 429KB) - ([Help on File Formats](#));
 - g. [Schedule B](#) codes (for exports) and the Harmonized Tariff Schedule codes (for imports);
 - h. North American Free Trade Agreement Certificate of Origin (in accordance with clause C2608C, section 2) for the U.S. and Mexico only;
 - i. full details of dangerous material, as required for the applicable mode of transportation, signed certificates for dangerous material as required for shipment by the International Maritime Dangerous Goods Code, or International Air Transport Association regulations or the applicable Canadian [Dangerous Goods Shipping Regulations](#) and a copy of the safety data sheet.
4. Following receipt of this information by Canada, Canada will provide the appropriate shipping instructions, which may include the requirement for specific consignee address labelling, the marking of each piece with a Transportation Control Number and customs documentation.
5. The Contractor must not ship goods before receiving shipping instructions from the DND Inbound Logistics contact.
6. If the Contractor delivers the goods at a place and time that are not in accordance with the given delivery instructions or fail to fulfill reasonable delivery instructions given by Canada, the Contractor must reimburse Canada any additional expenses and costs incurred.
7. If Canada is responsible for delays in delivering the goods, ownership and risk will be transferred to Canada upon expiry of either 30 days following the date on which a duly completed shipping application is received by Canada or by its appointed forwarding agent, or 30 days following the delivery date specified in the Contract, whichever is later.

**ANNEX «A»
BASIS OF PAYMENT**

1. TECHNICAL REQUIREMENT

The Contractor is required to provide Canada for the Department of National Defence (*DND*) with Radio Receivers in accordance with Annex B, Statement of Work and Appendix B, Statement of Requirement.

2. ADDRESSES

Destination Address	Invoicing Address
Department of National Defence DRDC- Ottawa 3701 Carling Avenue Ottawa, Ontario K1A 0Z4	Department of National Defence Defence R&D Canada-Ottawa 3701 Carling Avenue, Bldg 29 Ottawa, Ontario K1A 0Z4

3. DELIVERABLES

CONTRACT QUANTITY

Firm Quantity

Item	Description	Firm Quantity	Firm Unit Price, DDP, Transportation costs included, Applicable taxes extra
1	256-Channel High Frequency Signal Processing and Data Recorder System	1	\$ _____

OPTION 1

Item	Description	Estimated Quantity	Firm Unit Price, DDP, Transportation costs included, Applicable taxes extra
2	1024- Channel High Frequency Signal Processing and Data Recorder System	1	\$ _____

4. OPTION QUANTITY - Identified as Item 2

The Contractor grants to Canada the irrevocable option to acquire the goods described under item 2 and under the same terms and conditions and at the prices stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced through a contract amendment.

The Contracting Authority may exercise the options within 24 months after contract award date by sending a written notice to the Contractor.

Only one amendment may be issued to exercise each option.

ANNEX B STATEMENT OF WORK

PURCHASE REQUEST TOOL TRACKING NUMBER: 2017-14314

1. TITLE

256-Channel High Frequency Signal Processing and Data Recorder System

2. BACKGROUND

Defence Research and Development Canada (DRDC) has a requirement for High Frequency Receiver and Recorder products to build an experimental testbed for a 256-Channel Receive Array, with further procurement options.

3. ACRONYMS

DRDC	Defence Research and Development Canada
GSM	Government Supplied Material
GFE	Government Furnished Equipment
IP	Intellectual Property
MPS	Master Project Schedule
PMP	Project Management Plan
SOW	Statement of Work
SOR	Statement of Requirement
SRCL	Security Requirements Checklist
TA	Technical Authority
WBS	Work Breakdown Structure

4. APPLICABLE DOCUMENTS & REFERENCES

AD1: Statement of Requirement - 256-Channel High Frequency Signal Processing and Data Recorder System

5. TASKS

The Contractor must design, build, and deliver, a 256-Channel High Frequency Signal Processing and Data Recorder System.

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5.1 Project Plans

5.1.1 Project management plan

The Contractor must prepare and submit 1 month after contract award a Project Management Plan (PMP). The PMP must describe the Contractor's plan and processes for organizing, staffing, controlling and directing the activities necessary to deliver the system and to satisfy the requirements of the Work within schedule. The PMP must contain a list of project risks and mitigations.

5.1.2 Work breakdown structure

The Contractor must prepare and submit 1 month after contract award a Work Breakdown Structure (WBS) as the basic tool for development of schedules, as well as to support performance measurement, reviews and reporting. The Contractor must use the approved WBS as the basis for organizing, controlling and reporting the progress of the Work of the Contract.

5.1.3 Master project schedule

The Contractor must prepare and deliver 1 month after contract award a Master Project Schedule (MPS) that identifies major milestones in each of the project phases of design and factory acceptance. The MPS must be linked to the WBS at paragraph 5.1.2. Once approved by Canada, the MPS must be the governing document for scheduling activities.

5.2 Project Progress Reviews

5.2.1 Monthly progress review meetings

The Contractor must conduct progress review meetings with the Technical Authority (TA) on a monthly basis to review progress and technical issues. The meetings must be approximately one hour in duration and must be conducted by audio conferencing arranged by the Contractor making use of emailed slide decks, text documents, and spreadsheets.

5.2.2 Progress review meeting minutes

The Contractor must produce minutes for the progress review meetings that list the items discussed and action items raised, and have the minutes approved by the TA prior to distribution.

5.3 Design Phase

5.3.1 Design reviews

The Contractor must conduct an initial design review, a preliminary design review, and a critical design review, with the TA that will include an agenda and minutes.

5.3.2 System design document

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At each design review, the Contractor must provide an updated system design document.

5.3.3 Traceability analysis

At each design review, the Contractor must provide an updated traceability matrix, which provides a mapping of the Statement of Requirement (SOR) to the system design document.

5.3.4 Power requirements analysis

At each design review, the Contractor must provide an updated analysis of the system power requirements in the form of a spreadsheet identifying all equipment and their respective power requirements.

5.3.5 Hierarchical equipment list

The Contractor must produce and maintain a hierarchical equipment list which captures all equipment that defines the system, including government-furnished components.

5.3.6 Equipment specifications

The Contractor must document and identify the necessary equipment specifications and drawings to support the procurement and integration of all system and government-furnished equipment.

5.4 Factory Acceptance Phase

5.4.1 Acceptance test procedure

The Contractor must write a factory acceptance test procedure for review and approval by the TA.

5.4.2 Acceptance test traceability analysis

The Contractor must produce a factory acceptance test traceability matrix document showing mapping from the SOR to the steps in the factory acceptance test procedure.

5.4.3 Acceptance test dry run

The Contractor must dry run the factory acceptance test procedure.

5.4.4 Acceptance test readiness review

The Contractor must conduct a test readiness review that reports the dry run results and provide a report and presentation to the TA prior to conducting the factory acceptance test.

5.4.5 Final system design document

The Contractor must produce a final system design document.

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5.4.6 Physical Configuration Audit

The system must be inspected and a Physical Configuration Audit performed with the TA.

5.4.7 Conduct Acceptance test

The Contractor must conduct factory acceptance tests with the TA.

5.4.8 Acceptance test functional configuration audit

The Contractor must conduct a functional configuration audit with the TA and produce a report. The functional configuration audit validates that appropriate acceptance inspections, tests and/or demonstrations have occurred and has been witnessed by the TA.

5.5 Logistics Support Phase

5.5.1 Spares

5.5.1.1 Functional component spares

The Contractor must deliver 12.5% spares for all functional components identified in the SOR.

For functional components with module counts not divisible by 8, the Contractor must supply the next higher whole number of spare modules. For example, if the system has a single recorder, then an additional recorder must be provided as a spare.

5.5.1.2 Replacement hard drives

The Contractor must provide 4 sets of replacement hard drives, with each set having a capacity equal to the storage capacity of the recorder.

5.5.1.3 Interconnect cabling spares

The Contractor must provide 12.5% spare optical fiber and other interconnect cables, excluding government-furnished fiber optic links.

5.5.2 User manuals

5.5.2.1 Delivery of user manuals

The Contractor must develop and provide a user manual for all applications and equipment that involves any form of user interface.

5.5.2.2 Listing of user manuals

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A listing of user manuals to be delivered must be developed, updated and reviewed by the TA at the Design Reviews.

5.5.3 Technical Support

5.5.3.1 Telephone and Email Support

The Contractor must provide technical support via telephone during regular hours (Mon-Fri from 9am to 5pm) and via email for two years from date of delivery, for an estimated time of 120 hours.

5.5.3.2 Equipment and Application Training

The Contractor must develop an equipment and application training program and deliver at least 16 hours of equipment training for up to 4 individuals identified by the TA.

The training course must be offered on two occasions, one being prior to acceptance testing and the other being after acceptance testing.

5.5.3.3 Extended Warranty

The Contractor must provide a parts and labour extended warranty for two years from the date of delivery.

5.6 Contract Option A

The Contractor must provide as an option price and availability on delivering a separate 1024-Channel High Frequency Receiver Signal Processing and Data Recorder System.

In this event all references, in this Statement of Work and Appendix B: Statement of Requirement, to a 256 channel system must be replaced by reference to a 1024 channel system and all equipment/applications up-sized by a factor of 4 accordingly.

It is anticipated that the design phase would only require a critical design review and that acceptance phase documentation with minor updates would be re-used. The Logistics Support phase would be the same.

6. DELIVERABLES

No.	Deliverable, with Statement of Work (SOW) or Statement of Requirement (SOR) reference	Delivery timeline after Contract award
6.1	Project Plans (SOW 5.1.1) Project Management Plan (SOW 5.1.2) Work Breakdown Structure (SOW 5.1.3) Master Project Schedule	 1 month 1 month 1 month

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6.2	<p>Project Progress Reviews</p> <p>(SOW 5.2.1) Progress Review Meeting Agenda (SOW 5.2.1) Progress Review Meeting Supporting Documents (SOW 5.2.2) Progress Review Meeting Minutes (SOW 5.2.2) Progress Review Meeting Action Item List</p>	Monthly
6.3	<p>Initial design review</p> <p>(SOW 5.3.1) Initial design review agenda (SOW 5.3.1) Initial design review minutes (SOW 5.3.2) Initial system design document (SOW 5.3.3) Initial design review traceability analysis (SOW 5.3.4) Initial design review power analysis (SOW 5.5.2.2) User manuals list</p>	1 month
6.4	<p>Preliminary design review</p> <p>(SOW 5.3.1) Preliminary design review agenda (SOW 5.3.1) Preliminary design review minutes (SOW 5.3.2) Preliminary system design document (SOW 5.3.3) Preliminary design review traceability analysis (SOW 5.3.4) Preliminary design review power analysis (SOW 5.5.2.2) User manuals list</p>	2 months
6.5	<p>Critical design review</p> <p>(SOW 5.3.1) Critical design review agenda (SOW 5.3.1) Critical design review minutes (SOW 5.3.2) Critical system design document (SOW 5.3.3) Critical design review traceability analysis (SOW 5.3.4) Critical design review power analysis (SOW 5.5.2.2) User manuals list</p>	3 months
6.6	<p>Factory Acceptance</p> <p>(SOW 5.4.1) Acceptance test procedure (SOW 5.4.2) Acceptance test traceability analysis (SOW 5.4.3) Acceptance test dry run (SOW 5.4.4) Acceptance test readiness review (SOW 5.4.5) Final system design document (SOW 5.4.6) Physical configuration audit (SOW 5.4.8) Functional configuration audit (SOW 5.3.5) Hierarchical equipment list (SOW 5.3.6) Equipment specifications</p>	7 months

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6.7	Equipment Deliveries (SOR 1.1.1 to 1.1.3) Signal processing equipment (SOR 1.1.4) Recorder (SOR 1.1.6) Operator console	7 months
6.8	Application Delivery (SOR 1.4) Configuration application (SOR 1.5) Monitoring application (SOR 1.6) Quick Look application	7 months 7 months 7 months
6.9	256 Channel Packaging and Delivery (SOR 4.1) Equipment racks (SOR 4.2) Shipping containers	7 months 7 months
6.10	Logistics Support (SOW 5.5.1.1) Functional component spares (SOW 5.5.1.2) Replacement hard drives (SOW 5.5.1.3) Cable interconnect spares (SOW 5.5.2.1) User manuals (SOW 5.5.3.1) Technical Support (SOW 5.5.3.2) Equipment and Application Training (SOW 5.5.3.3) Extended 2 year Warranty	7 months 7 months 7 months 7 months 7-31 months 6-10 months 7-31 months
6.11	Contract Option A (SOW 5.6) 1024 Channel High Frequency Signal Processing and Data Recorder System	7 months after Option A is exercised

7. LANGUAGE OF WORK

The Language of Work for all tasks and deliverables must be English.

8. LOCATION OF WORK

The work must be performed at Contractor site.

9. TRAVEL

The Contractor is not required to travel.

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However, in the event of travel the Treasury Board Travel Directive will apply for any travel, accommodation and living expenses.

10. MEETINGS

All project review meetings, design review meetings, acceptance test readiness review meetings and audit meetings shall be identified in the PMP and MPS.

Special project/technical meetings may be requested by the contractor or government.

11. GOVERNMENT SUPPLIED MATERIAL (GSM)

None

12. GOVERNMENT FURNISHED EQUIPMENT (GFE)

None

13. SPECIAL CONSIDERATIONS

None

14. SECURITY

All work is unclassified and the Contractor will not have access to any classified information.

15. INTELLECTUAL PROPERTY (IP) OWNERSHIP

☐ Not applicable

☐ Canada to Own Intellectual Property Rights in Foreground Information - See attached IP checklist.

☒ Contractor to Own Intellectual Property Rights in Foreground Information - See attached IP checklist.

16. EMPLOYER/EMPLOYEE RELATIONSHIP (Mandatory for all on-site service contracts)

☒ Not applicable

☐ Applicable – See attached Employer/Employee Relationship checklist.

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STATEMENT OF WORK

17. CONTROLLED GOODS

☒ Not applicable

☐ Applicable

This contract does not involve Controlled Goods (DMC D) however there is the possibility that Export Controlled Goods (DMC Q) may apply to some aspects of the procurement. In this regard the contractor should so identify the goods and handle in accordance with government regulations.

Appendix B: Statement of Requirement

256-Channel High Frequency Signal Processing and Data Recorder System

1 Functional requirement

1.1 Functional components

1.1.1 Front end processing

The system must have a front end with 256 channels of analog filtering and low-noise amplification, which draws signals from a 256-element government-furnished receive antenna array.

1.1.2 Analog-digital converter

The system must have an analog-digital converter with 256 channels.

1.1.3 Digital down converter

The system must have a digital down converter with 256 channels, which converts real-value data to in-phase/quadrature data.

1.1.4 Recorder

The system must have a recorder, which writes 256 channels of in-phase/quadrature data to a storage medium.

1.1.5 Time and frequency standard

The system must be able to derive time and frequency reference information from external government-furnished sources.

1.1.6 Operator console

The system must have an operator console that provides a user interface, applications, and equipment required to perform configuration, control, and monitoring of the entire system.

1.2 Operational states

The system must be designed to operate in a minimum of four states consisting of Power Off, Start Up, Configuration, and Operational.

1.3 Operational modes

1.3.1 Mode 1 - All functional components together

The system must be able to operate in Mode 1, where all functional components are in single location (all equipment within a few meters).

1.3.2 Mode 2 - Remoting of operator console

The system must be able to operate in Mode 2, where the operator console is remoted to a location up to 10 kilometers from the rest of the equipment using one or more government-furnished fiber optic channels.

1.3.3 Mode 3 - Remoting of operator console and recorder

The system must be able to operate in Mode 3, where the operator console and recorder are remoted to a location up to 10 kilometers from the rest of the equipment using one or more government-furnished fiber optic channels.

1.3.4 Mode 4 - Remoting of operator console and recorder, full bandwidth

The system must be able to operate in Mode 4, where the operator console and a government-furnished high-speed recorder are remoted to a location up to 10 kilometers from the rest of the equipment using a government-furnished fiber optic bundle, such that the real-value digital data is transferred to the recorder at full bandwidth and no digital down conversion is required.

Note: A digital down converter can be present in Mode 4, but only if the down conversion factor is 1 and its numerically controlled oscillator is running at a frequency of 0 hertz.

Note: To provide the remoting in Modes 2-4, 10-gigabit Ethernet on multiple single-mode fibers can provide adequate data rate at 10 kilometers reach with a reasonable number of fibers and without repeaters.

1.4 Configuration

1.4.1 Configuration tool

A software application must be delivered that provides a single-screen configuration tool on the operator console for configuring the operating frequency and down conversion settings for all channels.

1.4.2 Frequency change

The configuration tool must allow a single entry to change the operating frequency of all channels.

1.4.3 Configuration log

The configuration tool must log the carrier frequency, recorder file, down conversion rate, recording start time, and recording stop time.

1.5 Monitoring

1.5.1 Monitoring tool

A software application must be delivered that provides a single-screen monitoring tool on the operator console for displaying the system state, the carrier frequency, the down conversion

rate, the recorder file, the start time of the most recent recording, and any errors in the receive system and the fiber optic communications.

1.5.2 Channel health

The monitoring tool must determine the forward power of a government-furnished calibration signal in each analog receive channel, compare it to a user-defined green/yellow/red power threshold for each channel, and then report a single-screen list of the 256 channels with their colour status.

1.5.3 Packet drops

The monitoring tool must log instances of packet drops on any Ethernet data communications paths in separate log files created for each recording session.

1.6 Quick look

1.6.1 Quick look tool

A software application must be delivered that provides a quick look tool on the operator console for performing range processing and range-Doppler processing of periodic linear frequency-modulated continuous-wave waveforms, with selectable sweep bandwidth, waveform repetition interval, coherent integration time, and user-defined range/Doppler windows.

1.6.2 Quick look beamforming

The quick look processing results must be capable of being displayed for a single channel or an arbitrary complex-amplitude-weighted linear combination of channels.

2 Signal requirement

2.1 Front end

2.1.1 Maximum frequency

The front end must have an analog low-pass filter that rejects frequencies above 30 megahertz.

2.1.2 Minimum frequency

The front end must have an analog high-pass filter that rejects frequencies below 3 megahertz.

2.1.3 Maximum signal level

The front end must have a gain that is adjustable such that at minimum gain, the full-scale input power level to the analog-digital converter is no less than -5 decibel-milliwatts, referenced to the front end input.

2.1.4 Minimum signal level

The front end must have a gain that is adjustable such that at maximum gain, the full-scale input power level to the analog-digital converter is no more than -35 decibel-milliwatts, referenced to the front end input.

2.2 Analog-digital conversion

2.2.1 Sample rate

The channel must be sampled at a rate of 100 megasamples per second.

2.2.2 Resolution

The channel must be sampled at an amplitude resolution of no less than 16 bits.

2.2.3 Noise figure

The noise figure of the cascaded front end and analog-digital converter must be no more than 10 decibels, when the full-scale input power level of the analog-digital converter is equal to -20 decibel-milliwatts, referenced to the front end input.

Note: As an example, if the measured, not theoretical, full-scale signal-to-quantization-noise ratio of a 16-bit analog-digital converter is 78 decibels, then the quantization noise is -98 decibel-milliwatts, referenced to the front end input. If the sampling frequency is 100 megasamples per second, then the bandwidth of the quantization noise is 50 megahertz, and the spectral density of the quantization noise is -175 decibel-milliwatts per hertz, referenced to the front end input. If thermal noise is -174 decibel-milliwatts per hertz and the noise figure of the front end is 8 decibels, then the noise figure of the cascaded front end and analog-digital converter is 8.51 decibels.

2.2.4 Spurious-free dynamic range

The spurious-free dynamic range of the cascaded front end and analog-digital converter must be no less than 100 decibels-fullscale, when no more than -30 decibel-milliwatts of signal power is present at the front end input, and the full-scale input power level of the analog-digital converter is equal to -20 decibel-milliwatts, referenced to the front end input.

Note: As a simple example, let us say that a single tone is presented to the analog-digital converter that is -10 decibels-fullscale. In response to this tone, the analog-digital converter produces a spurious spectral line that is -93 decibels relative to the tone. If the full scale of the analog-digital converter referenced to the front end input is -20 decibel-milliwatts, then the tone is -30 decibel-milliwatts, and the spur is at -123 decibel-milliwatts. This is -103 decibels-fullscale and meets the specification of spurious-free dynamic range as per the wording of the requirement.

Note: As a more complicated example, let us say that the gain of the front end is 26 decibels and the output third-order intercept point of the front-end is 38 decibel-milliwatts. If we consider two tones at the front end input that are -33 decibel-milliwatts each, or in other words a total power of -30 decibel-milliwatts, then the two tones will each be -7 decibel-milliwatts at the front end output, which is -45 decibels relative to the output third-order intercept point. This implies third-order intermodulation products that are -97 decibel-milliwatts at the front end

output, which is -123 decibel-milliwatt at the front end input. This is -103 decibels-fullscale and meets the specification of spurious free dynamic range as per the wording of the requirement.

2.2.5 Inter-channel time skew

The inter-channel time skew must be at most 1 nanosecond.

2.2.6 Number of samples

The number of sample points must be limited only by the data storage capacity of the recorder.

2.3 Digital down conversion

2.3.1 Frequency range

The digital down converter numerically controlled oscillator must be adjustable over the range 3 to 30 megahertz at a resolution of 1 hertz.

2.3.2 Frequency selection

The operator must be able to select a single numerically controlled oscillator frequency common to all channels using all of the following means: the configuration tool, a sequence file, and the output of a government-furnished environment monitor.

Note: The procedure for the reading of a government-furnished environment monitor will be determined during the design phase, but it would likely use a network socket.

2.3.3 Frequency change time

The system must be capable of changing carrier frequency to a new operating carrier frequency in a time of 100 milliseconds.

2.3.4 Digital down conversion factor

The selection of in-phase/quadrature sample rates must consist of at least the following selections: 62.5 kilohertz, 25.0 kilohertz, and 12.5 kilohertz, with the down conversion rate common to all channels.

2.3.5 Channel bandwidths

The realized channel bandwidths must be at least 80 percent of the in-phase/quadrature sample rate.

Note: These bandwidths would be 50 kilohertz, 20 kilohertz, and 10 kilohertz for the in-phase/quadrature sampling rates of 62.5 kilohertz, 25.0 kilohertz, and 12.5 kilohertz, respectively.

2.3.6 Phase coherence

At start of recording, the numerically controlled oscillators for all channels must start from the same state to ensure phase coherence of all channels.

2.4 Recorder

2.4.1 Data recording rate

The system must be capable of recording 256 channels of digital in-phase/quadrature signal data to storage at a rate of up to 62.5 kilosamples per second per channel.

Note: It is estimated that this recording requires at least 250 kilobytes per second per channel, or for 256 channels it requires at least 64 megabytes per second. This will be confirmed during the design phase.

2.4.2 Data storage capacity

The system must have a data storage capacity of at least 30 terabytes in addition to any space needed for software applications used by the system.

Note: Past experience with personnel endurance at remote sites has shown that operations generally run up to 12 hours per day for about 10 days, which requires about 30 terabytes of storage for data acquisition at a rate of 250 gigabytes per hour.

2.4.3 Start of data recording

The start of data collection must be selectable as either manual through user command or automatic at a pre-configured time.

2.4.4 Start latency

In the case of a manual start through user command, the data recording must start within 10 seconds of the user command being issued.

2.4.5 Stop of data recording

The stop of data recording must be selectable as either manual through user command or automatic at a pre-configured time.

2.4.6 Stop latency

In the case of a manual stop through user command, the data recording must stop within 10 seconds of the user command being issued.

2.4.7 Time stamping

All recorded data must be time-stamped to permit post-recording signal processing.

3 Physical and electrical requirement

3.1 Physical Equipment

3.1.1 Equipment Width

All electronics must be rack mounted in standard 19-inch wide racks.

3.1.2 Equipment Depth

All signal processing equipment electronics that are rack mounted must have the same outside equipment case depth dimensions, for ease of cable connector access and extreme high density rack mounting.

3.1.3 Jack Locations

All rack-mounted equipment must have external analog signals enter from the rear of the racks and digital signals exit from the rear of the racks.

3.1.4 Switch and Light Locations

All rack-mounted equipment must have power switches and light indicators accessible and visible from the front of the racks.

3.1.5 Air Vents/Holes

All air holes for venting must be screened to prevent insect entry.

3.1.6 Rack Mounted Height

The height up the equipment must not exceed 2 meters.

3.2 Environmental

3.2.1 Operating temperature range

The equipment must be capable of operating in temperatures between +5 degrees celsius and +35 degrees celsius.

3.2.2 Storage temperature range

The equipment must be capable of being stored in temperatures between -40 degrees celsius and +40 degrees celsius.

3.3 Power Draw

The system power draw must not exceed 15 kilovolt-amps.

ANNEX "C" to PART 5 OF THE BID SOLICITATION

FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - CERTIFICATION

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

For further information on the Federal Contractors Program for Employment Equity visit [Employment and Social Development Canada \(ESDC\)-Labour's](#) website.

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

Complete both A and B.

A. Check only one of the following:

- ☐ A1. The Bidder certifies having no work force in Canada.
- ☐ A2. The Bidder certifies being a public sector employer.
- ☐ A3. The Bidder certifies being a [federally regulated employer](#) being subject to the [Employment Equity Act](#).
- ☐ A4. The Bidder certifies having a combined work force in Canada of less than 100 permanent full-time and/or permanent part-time employees.

A5. The Bidder has a combined workforce in Canada of 100 or more employees; and

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

OR

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

B. Check only one of the following:

- ☐ B1. The Bidder is not a Joint Venture.

OR

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