



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

**Bid Receiving
PWGSC
33 City Centre Drive
Suite 480
Mississauga
Ontario
L5B 2N5
Bid Fax: (905) 615-2095**

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

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

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

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

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

Comments - Commentaires

Title - Sujet Sound Research	
Solicitation No. - N° de l'invitation W7719-135196/A	Date 2012-08-29
Client Reference No. - N° de référence du client W7719-135196	
GETS Reference No. - N° de référence de SEAG PW-\$TOR-002-5992	
File No. - N° de dossier TOR-2-35098 (002)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2012-09-28	
Time Zone Fuseau horaire Eastern Daylight Saving Time EDT	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Callahan, Kaye	Buyer Id - Id de l'acheteur tor002
Telephone No. - N° de téléphone (905) 615-2071 ()	FAX No. - N° de FAX (905) 615-2060
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATIONAL DEFENCE 1133 SHEPPARD AVE W. TORONTO Ontario M3K2C9 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

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

Issuing Office - Bureau de distribution

Public Works and Government Services Canada
Ontario Region
33 City Centre Drive
Suite 480
Mississauga
Ontario
L5B 2N5

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. Introduction

The bid solicitation is divided into seven parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work, the Basis of Payment, and Evaluation Criteria.

2. Summary

Defence Research and Development Canada – Toronto, Ontario has a requirement for research into 'Intelligibility and Sound Quality of Radio Messages in Noise Over Tactical Communication Devices. The work will include both firm and optional services to be performed during the period from date of award to March 31, 2015.

Pursuant to section 01 of Standard Instructions 2003 and 2004, a Consent to a Criminal Record Verification form, must be submitted with the bid, by the bid solicitation closing date, for each individual who is currently on the Bidder's Board of Directors.

The requirement is subject to a preference for Canadian goods and/or services.

3. Debriefings

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

PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the (<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 (2012-07-11) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

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

Delete: sixty (60) days

Insert: ninety (90) days

2. Submission of Bids

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

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

3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than seven (7) 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 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

1. Bid Preparation Instructions

Canada requests that bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (3 hard copies)
Section II: Financial Bid (1 hard copy)
Section III: Certifications (1 hard copy)

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

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

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

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process Policy on Green Procurement

(<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders are encouraged to:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and/or 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 demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability 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.

Section II: Financial Bid

1.1 Bidders must submit their financial bid in accordance with the Basis of Payment in Annex "B". The total amount of Goods and Services Tax or Harmonized Sales Tax must be shown separately, if applicable.

1.2 Exchange Rate Fluctuation

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

Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.
- (c) The evaluation team will determine first if there are three (3) or more bids with a valid Canadian Content certification. In that event, the evaluation process will be limited to the bids with the certification; otherwise, all bids will be evaluated. If some of the bids with a valid certification are declared non-responsive, or are withdrawn, and less than three responsive bids with a valid certification remain, the evaluation will continue among those bids with a valid certification. If all bids with a valid certification are subsequently declared non-responsive, or are withdrawn, then all the other bids received will be evaluated.

1.1 Technical Evaluation

Point rated technical evaluation criteria are included in Annex C.

1.2 Financial Evaluation

1.2.1 Mandatory Financial Criteria

- a. The Bidder must submit pricing in accordance with Annex B, Basis of Payment
- b. The maximum budgets available for the Contract and Optional services resulting from the bid solicitation are detailed below. Bids valued in excess of these amounts will be considered non-responsive. This disclosure does not commit Canada to pay the maximum funding available.
 - i. Maximum budget for Firm Requirement - Tasks 1, 2, 3 and 4 – Fiscal Year 2012/2013 - \$40,000.00
 - ii. Maximum budget for Optional Services - Tasks 5, 6, 7 and 8 – Fiscal Year 2013/2014 - \$70,000.00
 - iii. Maximum budget for Optional Services - Tasks 9, 10 and 11 – Fiscal Year 2014/2015 - \$70,000.00

2. Basis of Selection – Highest Rated Within Budget

- 1. To be declared responsive, a bid must:
 - a. comply with all the requirements of the bid solicitation;
 - b. meet all mandatory technical evaluation criteria; and
 - c. obtain the required minimum of 84 points overall for the technical evaluation criteria which are subject to point rating. The rating is performed on a scale of 112 points

-
2. Bids not meeting (a) or (b) or (c) 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

PART 5 - CERTIFICATIONS

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

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

1. Code of Conduct Certifications - Consent to a Criminal Record Verification

1.1 Bidders must submit with their bid, by the bid solicitation closing date:

- (a) a complete list of names of all individuals who are currently directors of the Bidder;
- (b) a properly completed and signed form Consent to a Criminal Record Verification (PWGSC-TPSGC 229), for each individual named in the list.
(<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/229.pdf>)

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

Bidders must submit the certifications as provided below:

2.1 Certifications Precedent to Contract Award

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

2.1.1 Federal Contractors Program - Certification

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

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

The Bidder or the member of the joint venture

- () is not subject to the FCP, having a workforce of less than 100 full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada;
- () is not subject to the FCP, being a regulated employer under the **Employment Equity Act, s.c. 1995, c. 44**;
- () is subject to the requirements of the FCP, having a workforce of 100 or more full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada, but has not previously obtained a certificate number from HRSDC, having not bid on requirements of \$200,000 or more;
- O() has not been declared an ineligible contractor by HRSDC, and has a valid certificate number as follows: _____ .*

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

2.1.2 Former Public Servant Certification

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

Definitions

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

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

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

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

1985, c.C-17, the Defence Services Pension Continuation Act, 1970, c.D-3, the Royal Canadian Mounted Police Pension Continuation Act, 1970, c.R-10, and the Royal Canadian Mounted Police Superannuation Act, R.S., 1985, c.R-11, the Members of Parliament Retiring Allowances Act, R.S., 1985, c.M-5, and that portion of pension payable to the Canada Pension Plan Act, R.S., 1985, c.C-8.

Former Public Servant in Receipt of a Pension

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

If so, the Bidder must provide the following information:

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

Work Force Reduction Program

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

If so, the Bidder must provide the following information:

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

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

Certification

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

2.1.3 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.

2.1.4 Education and Experience

SACC Manual Clause A3010T (2010-08-16) Education and Experience

2.2 Certifications Required with the Bid

Bidders must submit the following duly completed certifications with their bid.

2.2.1 Canadian Content Certification

This procurement is conditionally limited to Canadian services.

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

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

The Bidder certifies that:

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

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

PART 6 - RESULTING CONTRACT CLAUSES

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

1. Statement of Work

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

1.1 Optional Goods and/or Services

The Contractor grants to Canada the irrevocable option to acquire the goods, services or both described at Annex B, of the Contract under the same conditions and at the prices and/or rates stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

The Contracting Authority may exercise the option at any time before the expiry of the Contract by sending a written notice to the Contractor.

2. Standard Clauses and Conditions

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

2.1 General Conditions

2040 (2012-07-16), General Conditions - Research & Development, apply to and form part of the Contract.

3. Term of Contract

3.1 Period of the Contract

The period of the Contract is from date of Contract award to 31 March 2015.

3.2 Delivery Date

All the deliverables under the contract must be received on or before 31 March 2013.

4. Authorities

4.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Kaye Callahan
Title: Supply Team Leader
Public Works and Government Services Canada
Acquisitions Branch
Ontario Region
33 City Centre Dr., Ste. 480
Mississauga, ON
L2B 2N1

Telephone: 905-615-2071
Facsimile: 905-615-2060
E-mail address: kaye.callahan@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.

4.2 Project Authority (to be provided upon award)

The Project Authority for the Contract is:

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

Telephone: ____-____-_____
 Facsimile: ____-____-_____
 E-mail address: _____

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.

4.3 Contractor's Representative

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

Telephone: ____-____-_____
 Facsimile: ____-____-_____
 E-mail address: _____

5. Payment

5.1 Basis of Payment - Firm Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm lot price as specified in Annex "B" for a cost of \$ *to be inserted upon award* _____. Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

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

5.2 Milestone Payments

1. Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract and the payment provisions of the Contract, up to 90 percent of the amount claimed and approved by Canada if:

-
- a. an accurate and complete claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
 - b. the total amount for all milestone payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Contract;
 - c. all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives;
 - d. all work associated with the milestone and as applicable any deliverable required have been completed and accepted by Canada.
2. The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of the item if the Work has been accepted by Canada and a final claim for the payment is submitted.

6. Invoicing Instructions

1. The Contractor must submit a claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment.

Each claim must show:

- a. all information required on form PWGSC-TPSGC 1111;
 - b. all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
 - c. the description and value of the milestone claimed as detailed in the Contract.
2. The Goods and Services Tax or Harmonized Sales Tax (GST/HST), as applicable, must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no GST/HST payable as it was claimed and payable under the previous claims for progress payments.
 3. The Contractor must prepare and certify one original and two (2) copies of the claim on form PWGSC-TPSGC 1111, and forward it to the Project Authority identified under the section entitled "Authorities" of the Contract for appropriate certification after inspection and acceptance of the Work takes place.

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

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

7. Certifications

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

7.2 *SACC Manual* Clauses

A3060C (2008-05-12) Canadian Content Certification

8. Applicable Laws

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

9. Priority of Documents

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

- (a) the Articles of Agreement;
- (b) the general conditions 2040 (2012-07-16) Research and Development
- (c) Annex A, Statement of Work;
- (d) Annex B, Basis of Payment;
- (e) the Contractor's bid dated _____,

10. Foreign Nationals (Canadian Contractor)

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

11. Insurance

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

ANNEX A

STATEMENT OF WORK

INTELLIGIBILITY AND SOUND QUALITY OF RADIO MESSAGES IN NOISE OVER TACTICAL COMMUNICATIONS DEVICES

OBJECTIVES

1. The proposed laboratory research will evaluate speech production and perception with three candidate in-ear and muff-style tactical communications devices, as well as their conventional, level-dependent and active noise reduction capabilities. Anglophones and Francophones with normal-hearing or mild to moderate bilateral hearing impairment, will be tested in quiet and in noise ambients that are characteristic of military settings. The information obtained from this work will be used to recommend purchase of integrated hearing protection devices for use during military training and operations in theatre.

BACKGROUND

2. Increasingly, Canadian Forces (CF) personnel working in combat arms trades are outfitted with tactical communications devices (Nakashima and Abel, 2009). These devices, whether in the form of earplugs or earmuffs, are designed to function as integrated hearing protection systems, protecting hearing against the damaging effects of high-level ambient noise, while at the same time offering a way to enhance free-field and radio communications (Abel et al., 2011), and possibly directional hearing (Abel et al., 2007). Depending on the make and model, these devices may have the capability for active noise reduction (ANR) of continuous low-frequency sounds from vehicle engines (McKinley et al., 1996), as well as conventional passive attenuation of continuous mid- and high-frequency sounds (Abel and Odell, 2006), and level-dependent attenuation of short-duration impulses from weapon's fire (Abel and Nakashima, 2008; Buck, 2009). Enhanced communication and directional hearing capability address wearers' concerns that the use of hearing protection may interfere with the understanding of messages relayed in noisy surrounding and the perception of the direction of auditory warnings (Abel, 2008).
3. To date, there have been few studies which assess the range of amplification of radioed messages that would be possible with tactical communications devices with integrated hearing protection (hereafter referred to as integrated hearing protection devices), and the extent to which increasing the volume makes a difference in terms of audibility (detection of the message) in noise. There is also little information available on the effect of both low and high amplification on the sound quality (naturalness) and intelligibility (understanding) of the speaker, particularly if the speaker tends to raise his/her voice level in noise (the Lombard effect, Lane and Tranel, 1971). Outcomes may depend on the hearing status, language fluency and accent of both the speaker and listener. The effect of hearing status is a particular concern since individuals with mild-to-moderate hearing loss work in a number of combat arms trades (e.g., vehicle drivers).
4. In order to assess the performance of integrated hearing protection devices in the presence of the noise encountered during CF military operations, whether the ambient or from weapons, it is important to properly characterize the acoustic signals. In the case of impulsive sounds, previous measurements included only the peak noise levels and the duration (Forshaw et al., 1972). Proper acoustical analysis means not only measuring the sound levels, but also obtaining high-quality digital recordings so that they can be analyzed using mathematical models for auditory hazard.

STATEMENT OF WORK:

5. The contractor must:

Firm Requirement – Milestone 1 - Tasks 1 to 4 – Work to be performed during the period from date of award to 31 March 2013.

- (1) Perform a literature review that summarizes the results of studies on auditory perception with integrated hearing protection devices.
- (2) Design a laboratory experiment to measure the noise reduction capabilities (passive, active noise reduction and level-dependent) of three candidate integrated hearing protection devices. The devices will be selected in consultation with the Scientific Authority.
- (3) Using the same devices as in (2) above design a laboratory experiment on the effect on speech production and perception in noise of increasing the radio volume. At least three noise backgrounds that are typical of military backgrounds must be included. The impact of both (a) mild-to-moderate hearing loss in the listener, and (b) the native language (English and French) of the speaker and the listener must be assessed.
- (4) A report summarizing the studies reviewed and detailing the experimental designs, along with justification for the choices made, must be delivered by 31 March 2013.

Optional Services – Milestone 2 - Tasks 5 to 8 – If exercised, work to be performed during the period 1 April 2013 to 31 March 2014.

- (5) Obtain digital recordings of and analyze (spectrum, level, peak, Lmax and Lmin) several CF ambients and weapon systems that might be used in Part (3) above. Access to CF bases for the measurements will be arranged by the Scientific Authority and will require travel within Canada to a maximum of 2 sites. These site visits will be for approximately 2 to 3 days each. The amount of travel required and the number of systems to be measured will depend on the availability of equipment and CF personnel.
- (6) Carry out and complete a preliminary analysis of the data for the laboratory study described in (2) above.
- (7) Carry out and complete a preliminary analysis of the data for the laboratory study described in (3) above.
- (8) Write an interim report describing the protocol and measurements for the acoustical recordings of the ambients described in Part (5), and the designs for the experiments described in Parts (2) and (3), providing details and justification for the choice of devices tested, the noise backgrounds, the speech materials used, the screening criteria for subject selection, the test facility and equipment, the experimental protocols and the proposed statistical analyses, along with preliminary results. The interim report must be delivered by 31 March 2014.

Optional Services – Milestone 3 - Tasks 9 to 11 - If exercised, work is to be performed and completed during the period 1 April 2014 to 31 March 2015. The final report, Task (11) must be submitted no later than 30 September 2015.

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- (9) Analyze and interpret the results of the experiments carried out in Parts (6) and (7) above to determine the noise reduction capabilities of the candidate devices and the significance of observed differences in speech production and perception due to the noise background, radio volume, and the hearing status and language fluency of the listener.
- (10) Provide the digital files recorded in Part (4) to the Scientific Authority in an uncompressed audio format (e.g., wav files).
- (11) Write a final detailed report which includes the literature review (Part 1), information contained in the interim report (Part 8) with respect to the noise measurements and experiments, the results, a scholarly discussion of the outcomes in the context of previously published relevant research, conclusions and recommendations. A draft of the report is due 31 March 2015 with the final version of the report submitted no later than 30 September 2015.

DELIVERABLES

Firm Requirement:

Tasks 1 to 4 – A report summarizing the studies reviewed and details of the experimental designs, along with justification for the choices made.

Optional Services – if exercised:

Tasks 5 to 8 – Brief quarterly progress reports and an interim report as described at Task 8.

Tasks 9 to 11 – Brief quarterly progress reports and draft and final reports as described at Task 11.

CONSTRAINTS

6. Facility in both English and French by the Contractor and access to Anglophone and Francophone populations who could serve as participants are considered essential. However, it is expected that the ensuing reports will be written in English

SECURITY REQUIREMENTS

7. The research that will be undertaken by the Contractor is UNCLASSIFIED. The work will be done off-site at the Contractor's facility.

GOVERNMENT FUNDED EQUIPMENT

8. The Contractor will conduct the research in his/her own research facility. At the conclusion of this contract the Contractor will return to DRDC Toronto any free-standing equipment and acoustical instrumentation purchased for the conduct of the work that is valued in excess of \$500.

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ANNEX B**BASIS OF PAYMENT and
SCHEDULE OF MILESTONES**

Prices are firm all inclusive prices. The schedule of milestones for which payments will be made in accordance with the contract is detailed below. Each claim for payment will include a 10% hold back.

1.0 FIRM REQUIREMENT**1.1 Milestone 1 - Tasks (1) to (4) in accordance with Annex A.**

To be completed during the period from Contract award to 31 March 2013.

Deliverable - Report - due 31 March 2013

Firm all inclusive lot price Tasks (1) to (4) \$ _____

2.0 OPTIONAL SERVICES**2.1 Milestone 2 - Tasks (5) to (8) in accordance with Annex A**

If exercised, to be completed during the period from 1 April 2013 to 31 March 2014.

Deliverable – Interim Report - due 31 March 2014

Firm all inclusive lot price Tasks (5) to (8) \$ _____

2.2 Milestone 3 - Tasks (9) to (11) in accordance with Annex A.

If exercised, to be completed during the period 1 April 2014 to 31 March 2015

Deliverable – Draft Report - due 31 March 2015 with final report submitted no later than 30 September 2015.

Firm all inclusive lot price Tasks (9) to (11) \$ _____

ANNEX C EVALUATION CRITERIA

1.1 Point Rated Criteria

Bids will be evaluated against the following point rated criteria. Bids must achieve a minimum of 84 points out a possible 112 points (75%).

	Criteria	Rating
1.2.1	<p>The Bidder should provide the names of the proposed resources, maximum 2, and demonstrate their capability to perform the required work as requested below. If more than 2 are proposed only the first 2 listed will be evaluated.</p>	
(a)	<p>Background knowledge of physical acoustics and auditory perception.</p> <p>The Bidder should provide evidence that the proposed resource(s), have formal training (undergraduate and graduate degrees and supervised postdoctoral studies) in the fields of physical acoustics and auditory perception.</p> <p>Maximum Points: 10</p> <p>A maximum of 10 points will be awarded, 6 points for degrees received (1 for a Bachelor's degree, 2 for a Master's degree, 3 for a Doctorate), and 4 points for supervised postdoctoral training.</p> <p>If two resources are proposed, each will be evaluated as indicated above and the scores will be averaged.</p>	
(b)	<p>Knowledge of hearing protection and communication systems.</p> <p>The Bidder should provide evidence that the proposed resource(s) are knowledgeable in the areas of hearing protection and communication systems, by providing a combination of 6 examples, for the combined resources, of courses taught and/or student projects supervised and/or papers published and presented.</p>	<p>Maximum Points: 12</p> <p>A maximum of 12 points will be awarded for providing a list of 6 examples of courses taught and/or student projects supervised, and/or papers published or presented. (6 examples for 2 points each).</p>

(c)	<p>Experience in modelling auditory perception.</p> <p>The Bidder should provide evidence that the proposed resource(s) have undertaken projects that utilize experimental results to model some aspect of human auditory function.</p> <p>Give 2 examples for the combined resources including the title of the published or presented projects, along with a brief description of the findings and a brief discussion of the model that was developed.</p> <p>The list of papers published and presentations may duplicate previous responses if appropriate.</p>	<p>Maximum Points: 16</p> <p>A maximum of 8 points will be awarded for providing the title of each of two published or presented projects (2 points), along with a brief description of the findings (3 points), and a brief discussion of the model that was developed (3 points).</p>
(d)	<p>Knowledge of and practical experience in basic statistical methods.</p> <p>The Bidder should provide evidence that the proposed resource(s) understand the principles and application of basic statistical methods. For the combined resources, list undergraduate and graduate courses taken or taught and 5 examples of scientific publications or reports that show how the resources have applied basic statistics to the results.</p> <p>Note: The list of papers or reports may duplicate previous responses if appropriate.</p>	<p>Maximum Points: 15</p> <p>A maximum of 15 points will be awarded for a listing of undergraduate or graduate courses taken or taught (5 points – 2 for listing one undergraduate course and 3 for listing one graduate course) and a listing of five scientific papers or reports describing the analysis of data (10 points – 2 for each publication).</p>
(e)	<p>Capability to work constructively and co-operatively with human subjects and scientific personnel in a research-oriented team.</p> <p>The Bidder should provide evidence of the above capability by citing 5 multi-authored scientific publications and/or contract reports where the combined resources have conducted experiments with human subjects and worked in collaboration with scientific partners from the same or allied disciplines.</p> <p>Notes: The list of papers or reports may duplicate previous responses if appropriate.</p>	<p>Maximum Points: 15</p> <p>A maximum of 15 points will be awarded, (3 points for each of five published scientific papers or contract reports listed).</p>

(f)	<p>Experience in contracting with government and/or non-government agencies. Ability to meet timelines and provide deliverables.</p> <p>For the combined resources the Bidder should provide evidence of previous contracts with government and/or non-government agencies . For each resource list three previous contracts and include a sealed letter from one previous project/scientific authority that describes the nature of the work, strengths, understanding of the mandate of the department or agency, ability to meet the timelines and success in providing the required deliverables. The project/scientific authority should also indicate whether the resource was amenable to collaboration.</p> <p>Notes: The list of papers or reports may duplicate previous responses if appropriate.</p>	<p>Maximum Points: 22</p> <p>A maximum of 22 points will be awarded – 6 points for a listing of three previous contracts (2 points each) and 16 points for the contents of the letter (a maximum of 2 points for describing the nature of the work carried out by the bidder, 4 points for his/her strengths, 2 points for understanding the mandate of the agency, 2 points for ability to meet timelines, 4 points for the deliverables and 2 points for collaboration.</p> <p>1 point will be deducted for each weakness noted up to a maximum of 6 points).</p>
(g)	<p>Fluency in English and French</p> <p>The Bidder should demonstrate the proposed resource(s) fluency in English and French. For the combined resources list a total of six published papers and/or reports and/or presentations, three originally prepared in English and three originally prepared in French.</p> <p>Notes: The list of papers or reports may duplicate previous responses if appropriate.</p>	<p>Maximum Points: 12</p> <p>A maximum of 12 points will awarded, 2 points each for three papers/reports/presentations written in English and three written in French.</p>
1.2.2	Timeline	
(a)	<p>Timeline for the proposed contract.</p> <p>The Bidder should submit a schematic or a bulleted schedule showing the timeline for carrying out the various components of the work including possible delays.</p>	<p>Maximum Points: 10</p> <p>A maximum of 10 points will be awarded. A maximum of 7 points will be given for providing a schematic or schedule which includes a well thought out listing of the components of the work, and a maximum of 3 points to the realistic appraisal of the time that will be required for each component, including possible delays.</p>
	Total number of available points	112