



RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Bid Receiving Public Works and Government
Services Canada/Réception des soumissions
Travaux publics et Services gouvernementaux
Canada
1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
B3J 1T3
Nova Scotia
Bid Fax: (902) 496-5016

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

Atlantic Region Acquisitions/Région de l'Atlantique
Acquisitions
1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
B3J 3C9
Nova Scot

Title - Sujet Underwater Acoustic Comm Network	
Solicitation No. - N° de l'invitation W7707-175897/A	Date 2016-08-19
Client Reference No. - N° de référence du client W7707-17-5897	
GETS Reference No. - N° de référence de SEAG PW-\$HAL-208-9917	
File No. - N° de dossier HAL-6-77066 (208)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-09-06	Time Zone Fuseau horaire Atlantic Daylight Saving Time ADT
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: LeBlanc, JoAnne	Buyer Id - Id de l'acheteur hal208
Telephone No. - N° de téléphone (902) 496-5010 ()	FAX No. - N° de FAX (902) 496-5016
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATIONAL DEFENCE SEE HEREIN DARTMOUTH NOVA SCOTIA B3A3C5 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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TITLE: Concept for an Underwater Acoustic Communication Network in an Arctic Environment

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PART 1 - GENERAL INFORMATION

1.1 Introduction

The bid solicitation document is divided into six 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 and Additional Information: includes the certifications and additional information 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, the Electronic Payment Instruments, and any other annexes.

1.2 Summary

Defence Research & Development Canada (DRDC) Atlantic Research Centre (ARC) is currently investigating concepts for an underwater acoustic communication network for use in an Arctic environment. In support of that work, DRDC has a requirement to design and investigate communication protocols, acoustic sources and acoustic receivers to enable such an underwater communication network.

The communication network is intended to support underwater sensing nodes, such as: seabed hydrophone arrays, vertical line hydrophone arrays (moored or surface-float suspended), and unmanned underwater vehicles (UUVs), potentially towing a hydrophone line array. The communication network would provide a link between those sensing nodes over long ranges, on the order of 100-400 kilometers, and would enable the transfer of sensor information between network nodes and navigation data for mobile sensing nodes.

The period for this contract will be from date of contract award and completed within 5 months.

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

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

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.

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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>) 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 **(2016-04-04)** Standard Instructions - Goods or Services – Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

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.

2.3 Former Public Servant (to be completed by Supplier)

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPS, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

Definitions

For the purposes of this clause,

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

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

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

"pension" means a pension or annual allowance paid under the *Public Service Superannuation Act* (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the *Supplementary Retirement*

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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

As per the above definitions, is the Bidder a FPS in receipt of a pension? **Yes () No ()**
If so, the Bidder must provide the following information, for all FPS in receipt of a pension, as applicable:

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

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

Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **Yes () No ()**

If so, the Bidder must provide the following information:

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

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

2.4 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than six (6) 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.

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2.5 Applicable Laws

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

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.

2.6 Maximum Funding

The maximum funding available for the contract resulting from the bid solicitation is \$100,000.00 (Applicable Taxes extra, as appropriate). Bids valued in excess of this amount will be considered non-responsive. This disclosure does not commit Canada to pay the maximum funding available.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

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

Section I: Technical Bid (2 copies)
Section II: Financial Bid (1 copy)
Section III: Certifications (1 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; and
- (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 should:

- (1) use 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, print 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 and describe their approach in a thorough, concise and clear manner for carrying out the work.

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The technical bid should clearly address 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

3.1.1 Bidders must submit their financial bid in accordance with the in Basis of Payment in Annex "B". The total amount of Applicable Taxes must be shown separately.

3.1.2 Electronic Payment of Invoices – Bid

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex "C" Electronic Payment Instruments, to identify which ones are accepted.

If Annex "C" Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

Section III: Certifications

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

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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 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 two (2) 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 two (2) 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.

4.1.1 Technical Evaluation

4.1.1.1 Mandatory and Point Rated Technical Evaluation

Refer to Annex E, Mandatory and Point Rated Technical Evaluation Criteria.

4.1.1.2 Evaluation of Price

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, Canadian customs duties and excise taxes included.

4.2 Basis of Selection

4.2.1 Highest Rated Within Budget

To be declared responsive, a bid must:

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

Bids not meeting (a) or (b) or (c) or (d) 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 of \$100,000.00 + applicable taxes. In the event that the highest number of points is obtained by more than one responsive bid, the responsive bid with the lowest evaluated price will be recommended for award of a contract.

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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 *Ineligibility and Suspension Policy* (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide with its bid the required documentation, as applicable, to be given further consideration in the procurement process.

5.1.2 Additional Certifications Required with the Bid

5.1.2.1 Canadian Content Certification (to be completed by Bidder)

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](#).

Signature

Date

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

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provide the information. Failure to provide the certifications or the additional information listed below within the time frame specified will render the bid non-responsive.

5.2.1 Integrity Provisions – Required Documentation

In accordance with the *Ineligibility and Suspension Policy* (<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](#) website (http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969).

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.

5.2.3 Additional Certifications Precedent to Contract Award

5.2.3.1 Canadian Content Certification

5.2.3.1.1 SACC Manual clause [A3050T](#) (2014-11-27) Canadian Content Definition.

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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 Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work at Annex A.

6.2 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.

6.2.1 General Conditions

2040 (2016-04-04), General Conditions - Research & Development, apply to and form part of the Contract.

6.3 Security Requirement

There is no security requirement applicable to the Contract.

6.4 Term of Contract

6.4.1 Period of Contract

The period of the Contract is from date of Contract award and completed within a 5 month duration.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

JoAnne LeBlanc
Supply Officer
Public Works and Government Services Canada
Acquisitions Branch
1713 Bedford Row
Halifax, Nova Scotia B3J 1T3
Telephone: 902-496-5010
Facsimile: 902-496-5016
E-mail address: joanne.leblanc3@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.

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6.5.2 Technical Authority

The Technical Authority for the Contract is: Will be completed upon Contract award.

The Technical 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 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.

6.5.3 Contractor's Representative (to be completed by Bidder)

Name: _____

Telephone: _____

Email address: _____

Procurement Business Number (PBN): _____

6.6 Proactive Disclosure of Contracts with Former Public Servants

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

6.7 Payment

6.7.1 Basis of Payment

The Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work, and profit (if applicable), as determined in accordance with the Basis of Payment in [Annex B](#), to a limitation of expenditure of \$_____ (insert the amount at contract award). Customs duties are included, and Applicable Taxes are extra.

6.7.2 Limitation of Expenditure

1. Canada's total liability to the Contractor under the Contract must not exceed \$_____ (amount to be inserted at contract award). Customs duties are included, and Applicable Taxes are extra.
2. No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:
 - (a) when it is 75 percent committed, or
 - (b) four (4) months before the Contract expiry date, or
 - (c) as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work,

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whichever comes first.

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

6.7.3 Method of Payment

6.7.3.1 Progress Payments

1. Canada will make progress payments in accordance with the payment provisions of the Contract, no more than once a month, for cost incurred in the performance of the Work 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(<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/1111.pdf>), 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 amount claimed is in accordance with the Basis of payment;
 - (c) the total amount for all progress payments paid by Canada does not exceed **90 percent** of the total amount to be paid under the Contract;
 - (d) all certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives.
2. The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of all work required under the Contract if the Work has been accepted by Canada and a final claim for the payment is submitted.
3. Progress payments are interim payments only. Canada may conduct a government audit and interim time and cost verifications and reserves the right to make adjustments to the Contract from time to time during the performance of the Work. Any overpayment resulting from progress payments or otherwise must be refunded promptly to Canada.

6.7.4 Electronic Payment of Invoices – Contract

(will be included at contract award if applicable, and revised accordingly if and where applicable)

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- a. Visa Acquisition Card;
- b. MasterCard Acquisition Card;
- c. Direct Deposit (Domestic and International);
- d. Electronic Data Interchange (EDI);
- e. Large Value Transfer System (LVTS) (Over \$25M)

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6.8 Invoicing Instructions - Progress Claim

1. The Contractor must submit a claim for progress payment using form PWGSC-TPSGC 1111 (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/1111.pdf>), 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) a list of all expenses;
- (d) expenditures plus pro-rated profit or fee;
- (e) the description and value of the milestone claimed as detailed in the Contract.

Each claim must be supported by:

- (a) a copy of time sheets to support the time claimed;
- (b) a copy of the invoices, receipts, vouchers for all direct expenses, and all travel and living expenses;
- (c) a copy of the monthly progress report.

2. Applicable Taxes 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 Applicable Taxes 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 Technical Authority for certification. The Technical Authority will then forward the original and two (2) copies of the claim to the Contracting Authority for appropriate certification after inspection and acceptance of the Work takes place, and onward submission to the Payment Office for the remaining certification and payment.
4. The Contractor must not submit claims until all work identified in the claim is completed.

6.9 Certifications and Additional Information

6.9.1 Compliance

Compliance with the certifications and related documentation provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the entire contract period. If the Contractor does not comply with any certification, provide the related documentation or if 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.

6.9.2 SACC Manual Clauses

A3060C (2008-05-12), Canadian Content Certification

6.10 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in _____ (will be completed at contract award).

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6.11 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 (2016-04-04) General Conditions Research & Development;
- (c) Annex A, Statement of Work;
- (d) Annex B, Basis of Payment (if applicable);
- (e) Annex C, Contractor Disclosure of Foreground Information;
- (f) the Contractor's bid dated _____.

6.12 Defence Contract

SACC Manual clause A9006C (2012-07-16), Defence Contract

6.13 Insurance

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

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ANNEX A **STATEMENT OF WORK**

Title: Concept for an Underwater Acoustic Communication Network in an Arctic Environment

1. Background

Defence Research & Development Canada (DRDC) Atlantic Research Centre (ARC) is currently investigating concepts for an underwater acoustic communication network for use in an Arctic environment. In support of that work, DRDC has a requirement to design and investigate communication protocols, acoustic sources and acoustic receivers to enable such an underwater communication network.

The communication network is intended to support underwater sensing nodes, such as: seabed hydrophone arrays, vertical line hydrophone arrays (moored or surface-float suspended), and unmanned underwater vehicles (UUVs), potentially towing a hydrophone line array. The communication network would provide a link between those sensing nodes over long ranges, on the order of 100-400 kilometers, and would enable the transfer of sensor information between network nodes and navigation data for mobile sensing nodes.

2. Acronyms

ARC	Atlantic Research Centre
DRDC	Defence Research and Development Canada
OSI	Open Systems Interconnection model
SOW	Statement of Work
TA	Technical Authority
UUV	Unmanned Underwater Vehicle

3. Tasks

A high-level description of a concept for the communication network involving the underwater sensor nodes described in Annex A.

3.1 Study of Communication Protocols

The contractor must identify and evaluate physical layer protocols that would enable the communication network described in Annex A. The physical layer protocol as defined in the OSI model may include the following services: line coding, modulation, synchronization, equalization, forward error correction, etc.

The contractor must document (or reference) those protocol(s) that have been evaluated, the method(s) used for such evaluations, the limitations / constraints on those protocols, and where practical trade-offs / options to manage those limitations/constraints.

The contractor must evaluate, at a minimum, the following parameters:

- a. Latency,
- b. channel bandwidth,
- c. data rates,
- d. bit-error rate(s) or packet-error rate(s),
- e. required energy budget, and
- f. achievable range.

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3.2 Study of Projectors and Receivers

The contractor must identify and evaluate potential types of acoustic sources and receivers that would enable the communication network described in Annex A.

The contractor must document (or reference) the types of acoustic sources and receivers that have been evaluated, the method(s) used for such evaluations, the limitations / constraints on those sources and receivers, and the practical trade-offs / options to manage those limitations/constraints.

The Contractor must evaluate, at a minimum, the following parameters:

- a. expected bandwidth limitations
- b. physical source-receiver requirements
 - i. location in water column;
 - ii. equipment technologies;
 - iii. power requirements; and
 - iv. physical properties (size, weight, volume).
- c. constraints
 - i. Source level limitations;
 - ii. ease of deployment and recovery; and
 - iii. corrosion and other detrimental effects such as interference.

4. Deliverables

Number	Task Reference	Description of the Deliverables	Quantity and Format
4.1	3.1, 3.2	System concept – including investigation of physical layer communication protocols, acoustic projectors and receivers.	1 report (electronic format)

5. Date of Delivery

Deliverable	Delivery date
4.1	Within 5 months after contract award.

6. Location of Work

The work must be performed on Contractor site.

7. Travel

The Contractor is not required to travel.

8. Meetings

The contract will include the following meetings:

- a. Kick-off Meeting (following contract award)
- b. Informal Progress Meetings / Discussions (timing as determined by the TA)
- c. Close-out Meeting (prior to the end of the contract)

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Travel by Technical Authority may be required for the kick-off and close-out meetings. Follow-up meetings will be conducted by teleconferencing as much as possible.

Statement of Work

1. Concept for the Communication Network

The concept is to develop a long-range (ocean basin scale) underwater communication network, operating at ranges on the order of 100-400 kilometers between network nodes.

The communication network would operate in ice-covered waters, for example in the Arctic Ocean. The Arctic Ocean environment is unique in terms of the seasonal variations of its ice cover, ambient noise, sound speed profile and the high levels of multi-path and reverberation when an ice cover is present.

The communication network would support underwater sensor nodes, by enabling information to be exchanged between sensor nodes through the underwater communication channel. The concept for the sensor nodes are described in the second section of this Annex.

The network is expected to facilitate:

1. Control of the remote underwater network nodes.
2. Exchange of short messages.
3. Assist in the navigation of mobile underwater nodes
4. Facilitate distributed processing and inter-node collaboration.
5. Support the overall operations of the sensor network.

This exchange will be conducted using a yet to be defined messaging protocol; however, it is known that the network will have a number of restrictive parameters that include: latency, channel bandwidth, data rate, and link energy budget. More information on this topic may be provided to the Contractor during the kick-off meeting.

2. Concept for the Underwater Sensor Nodes

The underwater sensing nodes may include: seabed hydrophone arrays, vertical line hydrophone arrays (moored or surface-float suspended), and unmanned underwater vehicles (UUVs), potentially towing a hydrophone line array. The sensing nodes may be fixed or mobile.

These sensing nodes would be predominantly battery-powered systems, intended for long endurance deployments (e.g. months). This feature requires the energy usage of all onboard systems to be low. Energy usage is particularly important for the mobile nodes.

Each sensing node would possess the capability to measure and record time series of physical properties, including environmental properties near the sensor, perform signal processing on the acquired data to identify events or contacts, and to create, store and communicate messages suitable for sharing with remote operators and other network nodes.

More information on this topic may be provided to the Contractor during the kick-off meeting.

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ANNEX "B"
BASIS OF PAYMENT

1. **LABOUR:** at the following firm rates

CATEGORY (OR NAME)	FIRM HOURLY RATE	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
etc.		Est.: \$ _____

2. **EQUIPMENT:** at laid down cost without markup
(Specify type of equipment, if applicable) **Est.: \$ _____**

3. **MATERIALS AND SUPPLIES:** at laid down cost without markup
(Specify what categories of materials and supplies, if applicable) **Est.: \$ _____**

4. **SUBCONTRACTS:** at actual cost without markup
(Identify subcontractors) **Est.: \$ _____**

5. **ANY OTHER DIRECT CHARGES:** at actual cost without markup
(Specify what categories of direct charges, if applicable) **Est.: \$ _____**

Estimated Cost to a Limitation of Expenditure: \$ _____
(Applicable Taxes extra)

With the exception of the firm rate(s) and price(s), the amounts shown in the various items specified above are estimates only. Minor changes to these estimates will be accepted for billing purposes as the Work proceeds, provided that these changes have the prior approval of the Project Authority and provided that the estimated cost does not exceed the aforementioned Limitation of Expenditure.

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ANNEX C to Part 3 of the Bid Solicitation

ELECTRONIC PAYMENT INSTRUMENTS

The Bidder accepts to be paid by any of the following Electronic Payment Instrument(s):

- () VISA Acquisition Card;
- () MasterCard Acquisition Card;
- () Direct Deposit (Domestic and International);
- () Electronic Data Interchange (EDI);
- () Large Value Transfer System (LVTS) (Over \$25M)

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ANNEXE « D »
INTELLECTUAL PROPERTY DISCLOSURE CERTIFICATION

This form is to be completed and signed by the contractor upon completion of the contract and returned to:

Ce formulaire doit être complété et signé par le fournisseur dès l'attribution du contrat. Veuillez retourner à la personne indiquée ci-dessous.

JoAnne LeBlanc
Acquisitions Branch
Public Works and Government Services Canada
1713 Bedford Row, P.O.Box 2247
Halifax, N-S. B3J 3C9
Telephone: (902) 496-5010
Fax: (902) 496-5016

Contract title: Concept for an Underwater Acoustic Communication Network in an Arctic Environment

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It is a term of the referenced contract that, regardless of its ownership, all Foreground Information¹ that could be Inventions¹ and all other Foreground Information, shall be promptly and fully disclosed to Canada.

¹ - defined in the General Conditions identified in the Contract

Consequently, the undersigned, being a duly authorized officer of the Contractor, certifies that during the tenure of the contract
(mark appropriate box):

- [] No Foreground Information was conceived, developed or produced as part of the Work and, therefore the Contractor has nothing to disclose.
- [] All Foreground Information which was conceived, developed or produced as part of the Work was fully disclosed and documented in the technical reports delivered by the Contractor to the Technical Authority designated in the Contract, and the Contractor has nothing further to disclose.
- [] All Foreground Information conceived, developed or produced as part of the Work by the Contractor is hereby fully disclosed in the attached document.

Tel que stipulé dans le contrat mentionné ci-dessus, et peu importe à qui sont dévolus les droits de propriété intellectuelle, tous les renseignements originaux * susceptibles de constituer des inventions*, de même que tous les autres renseignements originaux découlant de ce contrat, devront être divulgués pleinement et sans délai au Canada.

* - tels que définis dans les conditions générales identifiées dans le contrat.

Par conséquent, le soussigné, étant un agent dûment autorisé de l'Entrepreneur, certifie que durant la période du contrat
(cochez la case appropriée):

- Aucun renseignement original n'a été conçu, développé ou produit pendant l'exécution des travaux; l'entrepreneur n'a donc aucun renseignement original à divulguer.
- Tous les renseignements originaux conçus, développés ou produits pendant l'exécution des travaux ont été entièrement divulgués et documentés dans les rapports techniques livrés par l'Entrepreneur à l'autorité technique indiquée dans le contrat, et l'Entrepreneur certifie qu'il n'existe aucune information supplémentaire à divulguer.
- Tous les renseignements originaux conçus, développés ou produits pendant l'exécution des travaux par l'Entrepreneur sont entièrement divulgués dans le document ci-joint.

Signature - Signature: _____

Print Name - Nom en caractère imprimé: _____

Title - Titre: _____

Company Name - Entrepreneur: _____

Date - Date: _____

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ANNEX E **EVALUATION CRITERIA**

1. MANDATORY EVALUATION CRITERIA

In their proposals, Contractors must demonstrate that they meet the following mandatory criteria. Failure to meet any of the mandatory criteria will render the bid non-compliant and it will be given no further consideration.

	CRITERIA	MET	NOT MET
M1	The Contractor must have demonstrated the capability to design and investigate various concepts of underwater acoustic communication systems (Contractor must provide, at a minimum, one example of related work completed within the last 60 months and documented in the public domain).		

2. POINT-RATED EVALUATION CRITERIA

	POINT-RATED EVALUATION CRITERIA	Minimum	Maximum
P1	The resume of the Project Manager must demonstrate a minimum of 12 months of project management experience in the last 72 months. Point rating: less than 12 months – 0 points; between 12 and 24 months – 10 points; between 25 and 36 months – 15 points; and more than 36 months – 20 points.	10	20
P2	The resume(s) of the technical staff involved must demonstrate a minimum of 1 previous experience in designing and evaluating some physical layer aspects of an underwater communication system in the last 60 months. Point rating: less than 1 experience – 0 points; 1 experience – 10 points 2 experiences – 15 points; and More than 2 experiences – 20 points. Public-domain documented evidence of experience – Extra 5 points	10	25
P3	The Contractor must provide a reasonable plan for tackling all tasks listed in the Statement of Work. The plan should provide a coarse estimate of resource allocation (labour and time) for each task. Point rating: No plan – 0 points; reasonable plan, no resource allocation – 10 points reasonable plan, with resource allocation – 15 points	10	15
P4	The resume(s) of the technical staff should preferably demonstrate previous experience in designing and evaluating the performance of underwater acoustic transducers (receivers and projectors) in the last 60 months. Point rating: less than 1 experience – 0 points; 1 experience – 10 points 2 experiences – 15 points; and More than 2 experiences – 20 points. Public-domain documented evidence of experience – Extra 5 points	0	25

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P5	The resume(s) of the technical staff involved should preferably demonstrate previous experience involving underwater acoustics in Arctic-like conditions in the last 60 months. Point rating: less than 1 experience – 0 points; 1 experience – 10 points 2 experiences – 15 points; and More than 2 experiences – 20 points. Public-domain documented evidence of experience – Extra 5 points	0	25
P6	The resume(s) of the technical staff involved should preferably demonstrate previous experience with long-range underwater acoustic communications in the last 60 months. Point rating: No prior experience – 0 points; 1 or more experience with range exceeding 100 kilometers – 5 points; and 1 or more experience with range between 100 and 400 kilometers – 10 points; Public-domain documented evidence of experience – Extra 5 points	0	15
TOTAL		30	125

3. SELECTION METHODOLOGY

Highest-rated Responsive Proposal within a Stipulated Maximum Budget.