



**RETURN BIDS TO:**  
**RETOURNER LES SOUMISSIONS À:**  
Réception des soumissions - TPSGC / Bid  
Receiving - PWGSC  
1550, Avenue d'Estimauville  
1550, D'Estimauville Avenue  
Québec  
Québec  
G1J 0C7

## 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**  
TPSGC/PWGSC  
601-1550, Avenue d'Estimauville  
Québec  
Québec  
G1J 0C7

<b>Title - Sujet</b> Conversion AHSL	
<b>Solicitation No. - N° de l'invitation</b> F3712-160019/A	<b>Date</b> 2016-11-08
<b>Client Reference No. - N° de référence du client</b> F3712-160019	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$QCL-036-16926	
<b>File No. - N° de dossier</b> QCL-6-39125 (036)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2016-12-19</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Heure Normale du l'Est HNE
<b>F.O.B. - F.A.B.</b> Specified Herein - Précisé dans les présentes <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input checked="" type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Gagnon, Mathieu	<b>Buyer Id - Id de l'acheteur</b> qcl036
<b>Telephone No. - N° de téléphone</b> (418) 649-2883 ( )	<b>FAX No. - N° de FAX</b> (418) 648-2209
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> Pêches & Océans Canada Service hydrographique du Canada 850, Route de la Mer MONT JOLI Québec G0K 1P0 Canada	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

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

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## PART 1 - GENERAL INFORMATION

### 1.1 Introduction

The bid solicitation and resulting contract document is divided into seven parts plus 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 and states that the Bidder agrees to be bound by the clauses and conditions contained in all parts of 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, if applicable, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 Security, Financial and Other Requirements: includes specific requirements that must be addressed by bidders; and
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Requirement, the Basis of Payment and other annexes.

### 1.2 Summary

- (i) Requirement:
  - a) to carry out the Work on the Service Hydrographic of Canada Ship "Garrot", in accordance with the associated Technical Specifications attached as Annex A and all related drawings.
  - b) to carry out any approved unscheduled work not covered in paragraph a) above.
- (ii) As per the Integrity Provisions under section 01 of *Standard Instructions 2003*, bidders must provide a list of all owners and/or Directors and other associated information as required. Refer to section [4.21](#) of the *Supply Manual* for additional information on the Integrity Provisions.

### 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) (<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 (2016-4-04) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

#### 2.1.1 SACC Manual Clauses

SACC Manual Clause B1000T (2014-06-26), Condition of Material – Bid

### 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.

You can also submit your bid by facsimile at (1) 418-648-2209, by the date, time and place indicated on page 1 of the bid solicitation.

### 2.3 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.

### 2.4 Applicable Laws

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

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

## 2.5 Bidders' Conference (Not mandatory)

A bidders' Conference chaired by the Contracting Authority will be convened in the Service Hydrographic of Canada's Office, at 850 de la mer Road, C.P. 1000, Mont Joli, QC, Canada, G5H 3Z4, at 10 am, November 29<sup>th</sup>, 2016. **An attendance confirmation is required before 11:00 am, November 14<sup>th</sup>, 2016, otherwise the bidders' conference will be cancelled.**

It is recommended that the Bidder or a representative of the Bidder attend the Bidders' Conference in order to review the Scope of the Work required and to receive additional information and clarifications. Bidders are to communicate with the Contracting Authority prior to the conference to confirm attendance. Bidders that do not attend are not precluded from submitting a bid. Bidders are to provide the Contracting Authority with the names of their representatives no later than two days prior to the conference. The Contracting Authority will have an attendance form which is to be signed by the Bidder's representative(s) in attendance. Bidders are advised that any clarifications or changes resulting from the Bidder's conference and/or the subsequent viewing of the vessel shall be included as an amendment to the bid solicitation document.

## 2.6 Optional Site Visit

A visit of the vessel will be held immediately after the bidders' conference. The Site Visit will include the visit of the vehicle to transform.

## 2.7 Work Period – Marine – Bid

The Work must commence and be completed as follows:

Design and prefabrication: From Contract award to Start of Onboard Installation Work

Start of Onboard Installation Work: February 27<sup>th</sup>, 2017.

End of Onboard Installation Work: March 27<sup>th</sup>, 2017 or four (4) weeks after start of Work. (At the earlier date.)

Commissioning, Trials and acceptance: To be completed no later than June 17<sup>th</sup> 2017

The Bidder agrees through submission of its response to the bid solicitation that the above time frame provides an adequate period to perform the subject work and absorb a reasonable amount of unscheduled work; and further, that they have sufficient material and human resources allocated or available to complete the subject work and a reasonable amount of unscheduled work within the Work period.

## 2.8 Docking Facility (*not used*)

## 2.9 List of Proposed Sub-contractors

If the bid includes the use of subcontractors, the Bidder agrees, upon written request from the Contracting Authority, to provide a list of all subcontractors including a description of the things to be purchased, a description of the work to be performed by specification section and the location of the performance of that work. The list should not include the purchase of off-the-shelf items, software and such standard articles and materials as are ordinarily produced by manufacturers in the normal course of business, or the provision of such incidental services as might ordinarily be subcontracted in performing the Work, i.e. subcontract work valued at less than \$5000.00

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## **2.10 Quality Plan - Solicitation**

Upon written request from the Contracting Authority, the Bidder must provide an example of its Quality Plans applied to similar former projects. The Plan must be in the same format that will be used after award of contract.

## **2.11 Inspection and Test Plan**

Upon written request from the Contracting Authority, the Bidder must provide an example of its Inspection Plans for each item of the specifications.



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## PART 3 - BID PREPARATION INSTRUCTIONS

### 3.1 Bid Preparation Instructions

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

- Section I: Management Bid (1 hard copy)
- Section II: Financial Bid (1 hard copy)
- Section III: Certifications Requirements (1 hard copy)

***Prices must appear in the financial bid only (Annex I) and Appendix 1 to Annex I. 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) (<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 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: Management Bid

The Management Bid should be concise and should include all the certifications and other requirements as noted in Parts 4 and 6.

#### Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Financial Bid Presentation Sheet Annex I and the detailed Pricing Data Sheet, Appendix 1 to Annex I. The total amount of applicable taxes is to be shown separately, if applicable.

#### Section III: Certification Requirements

Bidders must submit the certifications required under Part 5.

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### **3.1.2      Unscheduled Work and Evaluation Price**

In any vessel refit, repair or docking contract, unscheduled work will arise after the vessel and its equipment is opened up and surveyed. The anticipated cost of the Work will be included in the evaluation of bids. The overall total cost will be calculated by including an estimated amount of additional person-hours (and/or material) multiplied by a firm hourly charge-out labour rate and is added to the firm price for the Work.

The overall total referred to as the "Evaluation Price" will be used for evaluating the bids. The estimated work will be based on historical experience and there is no minimum or maximum amount of unscheduled work nor is there a guarantee of such work.

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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 and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

#### 4.1.1 Technical Evaluation

Each bid will be reviewed to determine whether it meets the mandatory requirements of the bid solicitation. Any element of the bid solicitation identified with the words "must" or "mandatory" is a mandatory requirement. Bids that do not comply with each and every mandatory requirement will be declared non-responsive and be disqualified.

Mandatory evaluation technical criteria and point rated evaluation technical criteria are included in Tables 4.1.1.1 and 4.1.1.2 below. The mandatory evaluation technical criteria and point rated evaluation technical criteria will be evaluated based on similar projects.

Similar projects means:

A project for the design, the manufacture or transformation, and the commissioning of an autonomous hydrographic survey launch (AHSL) with a value of \$ 100,000.00 (CAD) or more.

For each similar project, bidders must provide **at least** the following information:

- Title of the project;
- Project Value;
- Characteristics of the AHSL;
- Project description and the final result;
- Name of the user/customer, including name, telephone number and email of a contact person who can confirm the information;
- Exact dates of the project (month and year of start and end / delivery).

A verification with the user of the project in reference to attest the accuracy of the information could be made. If the user is not available within the required delays or refute the information provided by the bidder, the bid will be declared non-responsive.

Detail description of the AHSL equipment means:

The full list of embarked major components, is:

- Make and model (and/or description) of the remote control console;
- Make and model (and/or description) of the vessel control unit;
- List, function and description of the computers and software used;
- Make and model (and/or description) of the devices and accessories used (radios, cameras, junction boxes, cables and any other non-listed essential items).

If the information provided is not sufficient to confirm the relevance of the conversion of a conventional hydrographic launch to an AHSL, the bid could be declared non-responsive.

**Table 4.1.1.1: Mandatory technical criteria and point rated technical criteria for the assessment of the expertise of the company and its project team and the performance of proposed equipment.  
Minimum required = 30/65 points**

Evaluation Criteria	Mandatory Criteria	Point Rated Criteria
<b>1- Bidder's relevant expertise</b>	The Bidder must have achieved a minimum of 2 similar projects over the past 5 years.	<ul style="list-style-type: none"> <li>- The Bidder has completed <b>2 similar project</b> over the <b>last 5 years = 5 points</b></li> <li>- The Bidder has completed <b>3 to 5 similar projects</b> over the <b>last 5 years = 10 points</b></li> <li>- The Bidder has completed <b>5 similar projects</b> over the <b>last 5 years = 15 points</b></li> </ul>
<b>2- Experience of the Project Manager</b>	Must have completed a minimum of 1 similar project as a Project Manager, over the last 3 years.	<ul style="list-style-type: none"> <li>- Has completed <b>1 to 3 similar projects</b> as a Project Manager over the <b>last 5 years = 3 points</b></li> <li>- Has completed <b>more than 3 similar projects</b> as a Project Manager over the <b>last 5 years = 5 points</b></li> </ul>
<b>3- Experience of the Hydrographic Equipment Senior Technician</b>	Must have completed a minimum of 1 similar project as a Hydrographic Equipment Interfacing Senior Technician, over the last 3 years.	<ul style="list-style-type: none"> <li>- Has completed <b>1 to 3 similar projects</b> as a Hydrographic Equipment Interfacing Senior Technician over the <b>last 5 years = 5 points</b></li> <li>- Has completed <b>more than 3 similar projects</b> as a Hydrographic Equipment Interfacing Senior Technician over the <b>last 5 years = 10 points</b></li> </ul>
<b>4- Experience of the Marine Automation Senior Technician</b>	Must have completed a minimum of 1 similar project as a Marine Automation Senior Technician, over the last 3 years.	<ul style="list-style-type: none"> <li>- Has completed <b>1 similar project</b> as a Marine Automation Senior Technician over the <b>last 5 years = 5 points</b></li> <li>- Has completed <b>2 to 3 similar projects</b> as a Marine Automation Senior Technician over the <b>last 5 years = 10 points</b></li> <li>- Has completed <b>more than 3 similar projects</b> as a Marine Automation Senior Technician over the <b>last 5 years = 15 points</b></li> </ul>
<b>5- Past performance of the proposed marine automation system</b>	Must have been used with success in a minimum of 1 similar project, over the last 3 years.	<ul style="list-style-type: none"> <li>- Has been used in <b>1 to 2 similar projects</b>, over the <b>last 3 years = 5 points</b></li> <li>- Has been used in <b>3 to 5 similar projects</b>, over the <b>last 3 years = 10 points</b></li> <li>- Has been used in <b>more than 5 similar projects</b>, over the <b>last 3 years = 15 points</b></li> </ul>
<b>6- Understanding of the technical requirement</b>	Must provide a detailed description of the proposed system.	<ul style="list-style-type: none"> <li>- Has provided <b>all the technical data sheets</b> of the major components = <b>0 to 5 points</b> (1 point per technical data sheet)</li> </ul>

**Table 4.1.1.2:** Point rated technical evaluation criteria for the assessment of the AHSV's functionalities and other deliverables included in the Bid. The criteria of the table below are taken from the requirements with a digital score rating in section 2 to 9 of the Technical Statement of Requirement of Annex A.  
**Minimum required = 30/63 points**

Reference of the TSOR	Description	Point rated criteria
3.1.1.2	The cruising speed must be set by the operator in knots and this speed should be stable at: More or less 1 knot.	1 point if included
3.1.2.2	The cruising speed must be set by the operator in knots and this speed should be stable at: More or less 1 knot.	1 point if included
3.1.4.2	Maintain course made good over ground, at survey speed, in following conditions: With cross wind 15 knots or higher.	1 point if included
3.1.6.2	Following a pre-established line and able to stay on that line with a XTE : Between 1.0 to 2.0 meters;	1 point if included
3.1.6.3	Following a pre-established line and able to stay on that line with a XTE: Under 1.0 meter.	1 point if included
3.1.7	Able to come back on the planned survey line smoothly in less than 60 seconds according to deviation established at point 3.1.6.1.	1 point if included
3.2.2	The AHSL will operates according to different modes: Full automatic control mode (autonomous);	5 points if included
3.2.3	The AHSL will operates according to different modes: Semi-automatic mode (assisted by the operator);	2 points if included
4.1.3.2	Weight of new added components : Will be between 60 and 90 kg;	1 point if included
4.1.3.3	Weight of new added components: Will be less than 60 kg.	2 points if included
4.2.2.2	The Contractor supplies and installs on board the vessel a horn that meets the requirements of the <i>Collision Regulations</i> . Actuated automatically when the automatic emergency system (refer to the section 6.4) is activated.	1 point if included
5.1.1.4	The communication interface must provide access to all AHSL functions and operation of hydrographic survey equipment from the remote control station, including: The audio-video streaming cameras located inside of the AHSL;	2 points if included
5.2.1	Low bandwidth – range 45 km.	1 point if included
5.2.2	Short range high bandwidth 2.4 GHz – range 1 km.	1 point if included
6.1.1.3.2	To be able to accept many file formats: GeoTIFF, SHP	2 points if included
6.1.1.4	Display functions: Inertial navigation system;	1 point if included
6.1.1.5	Display functions: AIS targets;	1 point if included
6.1.1.6	Display functions: Radar overlay;	1 point if included
6.1.1.7	Display functions: Configurable cameras displays and controls;	1 point if included
6.1.1.8	Display functions: Full data feedback windows;	1 point if included

<b>6.1.2.2</b>	Operations functions : Will perform an autonomous survey on a predetermined area along a line pattern	3 points if included
<b>6.1.2.3</b>	Operations functions : Will able to recording all operations	1 point if included
<b>6.1.2.4</b>	Operations functions : Will have a last line point callback function to continue the survey;	1 point if included
<b>6.1.2.5</b>	Operations functions : Will have a different points programming function at the end of the operation, including : Return to starting point, go to predetermined point, stop at the end of the line;	1 point if included
<b>6.1.2.6</b>	Operations functions : Will allow real-time adjustments;	1 point if included
<b>6.2.1.1</b>	Wireless high bandwidth communication as described in item 5.2 : Real-time information transmission to the operator for quality control;	1 point if included
<b>6.2.1.2</b>	Wireless high bandwidth communication as described in item 5.2 : Transmission of cameras information;	1 point if included
<b>6.2.2.1</b>	Wireless low bandwidth communication as described in item 5.2: Engines control and monitoring;	1 point if included
<b>6.2.2.2</b>	Wireless low bandwidth communication as described in item 5.2: Alarms information including engines, flooding, batteries minimum charge, communication lost, PC and network problem.	1 point if included
<b>6.3.1</b>	Analysis system for the collision avoidance system ;	3 points if included
<b>6.3.2</b>	Minimum depth alarm for the grounding avoidance system;	3 points if included
<b>6.3.3</b>	Quality control check for the bad acquisition data.	2 point if included
<b>6.4.1</b>	Collision avoidance system alarm and emergency preprogrammed command, including: stop, stay in place, go to...	1 point if included
<b>6.4.2</b>	Grounding avoidance system alarm and emergency preprogrammed command, including: stop, reverse and stop.	1 point if included
<b>6.4.3.2</b>	Emergency stop button with the following preprogrammed automatic functions: Reverse;	1 point if included
<b>6.4.3.3</b>	Emergency stop button with the following preprogrammed automatic functions: Return in remote manual mode;	1 point if included
<b>6.4.3.4</b>	Emergency stop button with the following preprogrammed automatic functions: Holding position.	1 point if included
<b>6.4.4</b>	Defining working area with emergency procedures in case the AHSL tries to exit.	1 point if included
<b>6.4.5</b>	Defining not allowed area.	1 point if included
<b>9.3</b>	The Contractor will provide a list of spare parts, with a complete description and price.	1 point if included
<b>9.4.1</b>	For the following 4 years after the end of the warranty, the Contractor will provide a software annual maintenance plan including all licenses, updates and improvements of all software used for the AHSL control systems. The cost will be included in the bid price.	5 points if included
<b>9.4.2</b>	The Contractor will provide a service visit after the first season of operation of the AHSL. Where appropriate, the visit will be done at the CHS regional office in Mont-Joli and the cost will be included in the bid price.	3 points if included

#### 4.1.2 Financial Evaluation

- (a) Bidders must submit their financial bid in accordance with Annex "I", Financial Bid Presentation Sheet.
- (b) The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, FOB destination, Canadian customs duties and excise taxes included.

Unless the bid solicitation specifically requires bids to be submitted in Canadian currency, bids submitted in foreign currency will be converted to Canadian currency for evaluation purposes. The rate given by the Bank of Canada in effect on the bid solicitation closing date, or on another date specified in the bid solicitation, will be applied as a conversion factor to the bids submitted in foreign currency.

- (c) Bidders must provide prices DDP (Incoterm 2000). Bids will be assessed on a DDP (Incoterm 2000) basis.
- (d) The total bid price evaluation price will be the price of Total C of the Summary Table available at Annex B - Basis of Payment.

#### 4.1.3 Mandatory Criteria

Bids will be assessed in accordance with the entire requirement of the bid solicitation including compliance with the mandatory certifications and table of deliverable requirements as detailed in Parts 2, 4, 5 & 6. Only those bids which are found to meet all the mandatory requirements within the specified time frames will be deemed responsive.

#### 4.1.4 Table of Mandatory Requirements to be met by bid closing

Notwithstanding deliverable requirements specified anywhere else within this solicitation and its associated Technical Specification, the following are the only mandatory deliverables that must be submitted with the Bid at the time of bid closing. The following are mandatory and the Bidder must be compliant on each item to be considered responsive

Item	Description	Completed and attached
1	Completed Annex "I" Financial Bid presentation Sheet;	
2	Completed Appendix 1 to Annex "I" Price per item sheet;	
2	Curriculum vitae of the Project Manager	
3	Curriculum vitae of the Hydrographic Equipment Senior Technician	
4	Curriculum vitae of the Marine Automation Senior Technician	
5	Detailed description of the proposed conversion to an ASHV	
6	Insurance requirement, as per clause 6.6.13, Part 6	

#### 4.1.5 Table of Requirements to be provided after bid closing

The following information, which supports the bid, may be requested by the Contracting Authority from the bidder and it must be provided within **two (2) working days** of the written request:

Item	Description	Completed and Attached
1	Examples of quality and inspections plans, as per articles 2.10 and 2.11	Prior to contract award
2	Federal Contractors Program for Employment Equity - Certification, as per clause 5.2.2, Part 5	Prior to contract award
3	Welding Certification, as per clause 6.6.7, Part 6	Prior to contract award
4	Work Schedule and Reports, as per clause 6.6.9, Part 6	Prior to contract award
5	Schedule of Milestone, as per Table of clause 7.6.3, Part 7	Prior to contract award

#### 4.1.6 Deliverable after Contract award

Item	Description	Must be supplied after contract award, within
1	Insurance requirement, as per clause 7.11, Part 7	10 calendar days
2	Work Schedule and Reports, as per clause 7.16, Part 7	5 calendar days

#### 4.2 Basis of Selection

##### 4.2.1 Basis of Selection – Highest Combined Rating of Technical merit and Price, SACC Manual Clause A0027T (2007-07-16)

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 30 points overall for the technical criteria evaluation for the assessment of the expertise of the company and its project team and the performance of proposed equipment (table 4.1.1.1) which are subject to point rating. The rating is performed on a scale of 65 points.
  - d. obtain the required minimum of 25 points overall for the technical criteria evaluation for the assessment of the AHSV's functionalities and other deliverables (table 4.1.1.2) which are subject to point rating. The rating is performed on a scale of 63 points.



- 
2. Bids not meeting (a) or (b) or (c) or (d) will be declared non-responsive. Neither the responsive bid that receives the highest number of points nor the one that proposed the lowest price will necessarily be accepted. The responsive bid with the lowest evaluated price per point will be recommended for award of a contract.
  3. The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 65 % for the technical merit and 35 % for the price.
  4. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows:
    - total number of points obtained / maximum number of points available multiplied by the ratio of 45% will be granted for the assessment of the expertise of the company and its project team and the performance of proposed equipment (See Table 4.1.1.1).
    - total number of points obtained / maximum number of points available multiplied by the ratio of 20% will be granted for the assessment of the AHSV's functionalities and other deliverables (See Table 4.1.1.2).
  5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 35%.
  6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
  7. Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract.

**Example:** (the maximum number of points for the technical competencies is 128, including 65 for the expertise and 63 for the functionalities and other deliverables)

<b>Highest combined score;</b> - for the financial aspect (35%); - for technical - References aspects of Table 4.1.1.1 (45%); - for technical - Functionalities and other deliverable aspects of Table 4.1.1.2 (20%)						
<b>Bidders</b>	<b>A</b>	Pass "Yes" or "No"	<b>B</b>	Pass "Yes" or "No"	<b>C</b>	Pass "Yes" or "No"
Submitted prices	154 000,00 \$		189 000,00 \$		266 000,00 \$	
<b>Technical scores</b> for the assessment of the expertise of the Bidder and its project team and the performance of proposed equipment <b>(Table 4.1.1.1)</b> <b>Minimum required = 30 points</b>	29	<b>No</b>	41	<b>Yes</b>	44	<b>Yes</b>
<b>Technical scores</b> for the technical criteria evaluation for the assessment of the AHSV's functionalities and other deliverables <b>(Table 4.1.1.2)</b> <b>minimum required = 35 points</b>	56	<b>Yes</b>	50	<b>Yes</b>	55	<b>Yes</b>
<b>Calculation</b>	<b>A</b>		<b>B</b>		<b>C</b>	
<b>Score for the prices</b>	<b>Lowest submitted price, divided by the submitted price, multiplied by 35</b>					
	35,00		28,52		20,26	
<b>Technical scores - References (Table 4.1.1.1)</b>	<b>Score, divided by 65, multiplied by 40</b>					
	20,08		28,38		30,46	
<b>Technical scores - Functionalities and other deliverables (Table 4.1.1.2)</b>	<b>Score, divided by 80, multiplied by 25</b>					
	17,78		15,87		17,46	
<b>Total</b>	72,85		72,78		68,19	
In this example, the Contract would be awarded to Bidder "B" because it is the compliant bidder with the highest combined score. (Bidder "A" does not have the minimum score required for the technical - References aspect (Table 4.1.1.1))						

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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.

### 5.2 Certifications Precedent to Contract Award and Additional Information

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

#### 5.2.1 Integrity Provisions – Required Documentation

In accordance with the 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](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.

Solicitation No. - N° de l'invitation  
F3712-160019/A  
Client Ref. No. - N° de réf. du client  
F3712-160019

Amd. No. - N° de la modif.  
File No. - N° du dossier  
QCL-6-39125

Buyer ID - Id de l'acheteur  
qcl036  
CCC No./N° CCC - FMS No/ N° VME

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### **5.2.3 Additional Certifications Precedent to Contract Award**

#### **5.2.3.1 Status and Availability of Resources**

*SACC Manual* clause [A3005T](#) (2010-08-16), Status and availability of Resources

#### **5.2.3.2 Education and Experience**

*SACC Manual* clause [A3010T](#) (2010-08-16) Education and Experience

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## PART 6 - OTHER REQUIREMENTS

### 6.1 Security Requirement *(Not used)*

### 6.2 Financial Requirements *(Not used)*

### 6.3 Accommodation *(Not used)*

### 6.4 Parking *(Not used)*

### 6.5 Material and Supply Support *(Not used)*

### 6.6 Workers' Compensation - Letter of Good Standing *(Not used)*

### 6.7 Welding Certification

Welding must only be undertaken by a company Certified by the Canadian Welding Bureau (CWB) to the requirements of the following Canadian Standards Association (CSA) standards:

- (a) CSA W47.2, Certification of companies for fusion welding of aluminum;

In addition, welding must be done in accordance with the requirements of the applicable drawings and specifications.

Before the commencement of any fabrication work, and upon request from the Inspection Authority, the Contractor must provide approved welding procedures and/or a list of welding personnel intended to be used in the completion of the work. The list must identify the CWB welding procedure qualifications attained by each of the personnel listed and must be accompanied by a copy of each person's current CWB welding certification.

### 6.8 Valid Labour Agreement *(Not used)*

### 6.9 Work Schedule and Reports

Upon written request from the Contracting Authority, the Bidder must submit to Canada one (1) copy of its preliminary production work schedule. This schedule is to show the commencement and completion dates for the Work in the available work period, including realistic target dates for significant events. This schedule will be reviewed with the successful Bidder at the Pre-Refit Meeting.

### 6.10 Fueling and De-fueling Crown Vessels *(Not used)*

### 6.11 ISO 9001:2000 - Quality Management Systems *(Not used)*

### 6.12 Environmental Protection *(Not used)*

### 6.13 Insurances Requirements

At bids closing date the Bidder must provide a letter from an insurance broker or an insurance company licensed to operate in Canada stating that the Bidder, if awarded a contract as a result of the bid solicitation, can be insured in accordance with the Insurance Requirements specified in Annex "C".

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## PART 7 - RESULTING CONTRACT CLAUSES

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

### 1. Requirement

The contractor must:

- a) carry out the Work on the Service Hydrographic of Canada Ship's "Garrot", in accordance with the associated Technical Specifications attached as Annex A and all related drawings;
- b) carry out any approved unscheduled work not covered in paragraph a) above.

### 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) (<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

2030, (2016-04-04), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract. (except for paragraph 26 "*Liability*" which is deleted in its entirety and replace by the item 7.42 below).

Paragraph 22 "Warranty" of 2030, General Conditions – Higher Complexity – Goods, is amended in the Annex "E" - Warranty.

#### 2.2 Supplemental General Conditions

##### 2.2.1 Manned ship

From beginning to end of work:

1029 (2010-08-16) Ship Repairs, excluding section 07, section 09 and section 10 apply to and form part of the Contract.

##### 2.2.2 Other Supplemental General Conditions

[4003](#) (2010-08-16), Licensed Software, apply to and form part of the Contract.

[4004](#) (2013-04-25), Maintenance and Support Services for Licensed Software, apply to and form part of the Contract.

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

### 3. Security Requirement

There is no security requirement associated with this Statement of Work

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#### **4. Term of Contract**

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to 3 additional 1 year period(s) under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least 180 calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.

##### **4.1 Period of the Contract**

The contract period is from Contract award date until the end of the warranty period or the service period (at the later date) inclusively.

##### **4.2 Work Period – Marine – Contract**

The Work must commence and be completed as follows:

Design and prefabrication: From Contract award to Start of Onboard Installation Work.

Start of Onboard Installation Work: February 27<sup>th</sup>, 2017.

End of Onboard Installation Work: March 27<sup>th</sup>, 2017 or four (4) weeks after start of Work. (At the earlier date.)

Commissioning, Trials and acceptance: To be completed no later than June 17<sup>th</sup> 2017.

The Contractor agrees that the above time frame provides an adequate period to perform the subject work and absorb a reasonable amount of unscheduled work; and further, that it has sufficient material and human resources allocated or available to complete the subject work and a reasonable amount of unscheduled work within the Work Period.

##### **4.3 Delivery Date**

All the deliverables (except options) must be received as per described at section 4.2 above.

If applicable, optional Work must be received no later than March 17<sup>th</sup>, 2020

##### **4.4 Delivery Points**

Delivery of the requirement will be made to delivery point specified in the Contract.

Delivered Duty Paid (DDP), Mont-Joli, province of Québec, Canada, as per Incoterms 2000 for shipments from a commercial contractor.

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## 5. Authorities

### 5.1 Contracting Authority

The Contracting Authority for the Contract is:

Mathieu Gagnon  
Supply Chief (marine)  
Public Works and Government Services Canada  
Eastern Quebec Directorate  
Marine Section

Telephone: 418-649-2883  
Facsimile: 418-648-2209  
E-mail address: [mathieu.gagnon@pwgsc-tpsgc.gc.ca](mailto:mathieu.gagnon@pwgsc-tpsgc.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.

### 5.2 Technical Authority (Will be filled in at contract award)

The Technical Authority for the Contract is:

Name : \_\_\_\_\_  
Title : \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

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.

#### 5.2.1 Technical Representative

The Technical Representative for the Contract is: (Will be filled in at contract award)

Name : \_\_\_\_\_  
Title : \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

The Technical Representative 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 Representative; however, the Technical Representative 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.



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### 5.3 Inspection Authority/Inspector

The Inspection Authority for the Contract is:

Same as paragraph 5.2.1 above.

The Inspection Authority is the representative of the department or agency for whom the Work is being performed under the Contract and is responsible for inspection of the Work and acceptance of the finished work. The Inspection Authority may be represented on-site by a designated inspector and any other Government of Canada inspector who may from time to time be assigned in support of the designated Inspector.

### 5.4 Contractor's Representative (Will be filled in at contract award)

The Contractor's Representative for the Contract is:

Name : \_\_\_\_\_  
Title : \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

## 6. Payment

### 6.1 Basis of Payment - Firm Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid the firm price indicated in Annex B. Goods and Services Tax or Harmonized Sales Tax is extra, if applicable. Payment for unscheduled work will be done in accordance with Basis of Payment outlined at Annex B.

### 6.2 Limitation of Price

SACC Manual Clause C6000C (2011-05-16) Limitation of Price

### 6.3 Milestone Payments – Not subject to holdback, SACC Manual clause [H3010C](#) (2016-01-28)

Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract and the payment provisions of the Contract if:

- a. an accurate and complete claim for payment using [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. all the certificates appearing on form [PWGSC-TPSGC 1111](#) have been signed by the respective authorized representatives;
- c. all work associated with the milestone and as applicable any deliverable required has been completed and accepted by Canada.

### Schedule of Milestones:

The schedule of milestones for which payments will be made in accordance with the Contract is as follows:

Milestone No.	Description or "Deliverable"	Firm Amount	Due Date or "Delivery Date"
1	Approbation of the final concept by CHS-MPO as per the Technical Statement of Requirement	(Will be entered as 5% of the contract total price of the first AHSL conversion)	(To be establish after contract award)
2	Delivery of all the components required for the first AHSV.	(Will be entered as 25% of the contract total price of the first AHSL conversion)	(To be establish after contract award)
3	Completions of the installation and the interfacing of all equipment of the first AHSV, including living and travelling expenses for its employees or its subcontractors' employees.	(Will be entered as 50% of the contract total price of the first AHSL conversion)	(To be establish after contract award)
4	Acceptation of test and trials, completion of training and supply of all documentation for the equipment for the first AHSV, including living and travelling expenses for its employees or its subcontractors' employees.	(Will be entered as 20% of the contract total price of the first AHSL conversion)	(To be establish after contract award)
5	Supply of each of the optional AHSV, in whole or in part, as per described in Table B) Optional Work, of Annex B – Basis of Payment	(Will be entered as 100% of the contract total price of each option)	(To be establish after contract award)

### 7. Invoicing Instructions

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

[DFOInvoicing-MPOfacturation@df-mpo.gc.ca](mailto:DFOInvoicing-MPOfacturation@df-mpo.gc.ca)



AND

An electronic copy must be transmitted to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

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## 8. Certifications

- 8.1 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 entire contract period. 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.

## 9. Applicable Laws

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

## 10. Priority of Documents

If there is a discrepancy between the wordings 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 Supplemental General Conditions 1029, (2010-08-16), Ship Repairs;
- c) the General Conditions 2030, (2016-04-04), General Conditions - Higher Complexity - Goods
- d) Annex A, Requirement;
- e) Annex B, Basis of Payment;
- f) Annex C, Insurance Requirements;
- g) Annex D, Inspection/Quality Assurance/Quality Control;
- h) Annex E, Warranty;
- i) the Contractor's bid dated \_\_\_\_\_.

## 11. Insurance Requirements

The Contractor must comply with the insurance requirements specified in Annex C. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements will not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible to decide if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage will be at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within **ten (10)** calendar days after the date of award of the Contract a Certificate of Insurance including details of the insurance coverage, exclusions, deductibles and conditions and confirming that the insurance policy complying with the requirements is in force. The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

## 12. Financial Security *(Not used)*

## 13. Accommodation *(Not used)*

## 14. Parking *(Not used)*

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## 15. Sub-contracts and Sub-contractor List

The Contracting Authority is to be notified, in writing, of any changes to the list of subcontractors before commencing the work.

When the Contractor sub-contracts work, a copy of the sub-contract purchase order is to be passed to the Contracting Authority. In addition, the Contractor must monitor progress of sub-contracted work and inform the Inspection Authority on pertinent stages of work to permit inspection when considered necessary the Inspection Authority.

## 16. Work Schedule and Reports

No later than **five (5)** calendar days after contract award, the preliminary schedule must be revised and expanded as necessary and resubmitted before commencement of the Work.

The Contractor must provide a detailed work schedule showing the commencement and completion dates for the Work in the available work period, including realistic target dates for significant events. During the Work Period the schedule is to be reviewed on an ongoing basis by the Inspection Authority and the Contractor, updated when necessary, and available in the Contractor's office for review by Canada's authorities to determine the progress of the Work.

Production work schedules must be revised and resubmitted before each Progress Meeting. The revised schedules must show the effect of progressed work and approved work arising. Changes in scheduled completion dates due to unscheduled work will not be accepted except as negotiated under Design Change or Additional Work, Article 26.

## 17. Insulation Materials - Asbestos Free

All materials used to insulate or re-insulate any surfaces on board the vessel must meet Transport Canada Marine standards, for commercial marine work, and, for all work, be free from asbestos in any form. The Contractor must ensure that all machinery and equipment located below or adjacent to surfaces to be re-insulated are adequately covered and protected before removing existing insulation.

## 18. Loan of Equipment - Marine

The Contractor may apply for the loan of the Government special tools and test equipment particular to the subject vessel as identified in the Specifications. The provision of other equipment required for the execution of work in the Specifications is the sole responsibility of the Contractor.

Equipment loaned under this provision must be used only for work under this Contract and may be subject to demurrage charges if not returned on the date required by Canada. In addition, equipment loaned under the above provision must be returned in a like condition, subject to normal wear and tear.

A list of Government equipment that the Contractor intends to request must be submitted to the Contracting Authority within ten (10) calendar days of Contract Award to permit timely supply or for alternate arrangements to be made. The request must state the time frame for which the equipment is required.

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**19. Trade Qualifications**

The Contractor must use qualified, certificated (if applicable) and competent trades people and supervision to ensure a uniform high level of workmanship. The Inspection Authority may request to view and record details of the certification and/or qualifications held by the Contractor's trades people. This request should not be unduly exercised but only to ensure qualified trades people are on the job

**20. Material and Supply Support *(Not used)***

**21. ISO 9001:2000 - Quality Management Systems *(Not used)***

**22. Quality Control Plan**

The Contractor must implement and follow the Quality Control Plan (QCP) prepared according to the latest issue (at contract date) of ISO 10005 Quality management - Guidelines for quality plans, approved by the Inspection and Technical Authorities. The QCP shall describe how the Contractor will conform to the specified quality requirements of the Contract and specify how the required quality activities are to be carried out, including quality assurance of subcontractors. The Contractor must include a traceability matrix from the elements of the specified quality requirements to the corresponding paragraphs in the QCP.

The documents referenced in the QCP shall be made available when requested by the Inspection Authority.

The Contractor must make appropriate amendments to the QCP throughout the term of the contract to reflect current and planned quality activities. Amendments to the QCP must be acceptable to the Inspection and Technical Authorities.

**Refer to Annex "D" for further details on the Quality Control Plan requirements.**

**23. Welding Certification**

Welding must only be undertaken by a company Certified by the Canadian Welding Bureau (CWB) to the requirements of the following Canadian Standards Association (CSA) standards:

- (a) CSA W47.2, Certification of companies for fusion welding of aluminum;

In addition, welding must be done in accordance with the requirements of the applicable drawings and specifications.

Before the commencement of any fabrication work, and upon request from the Inspection Authority, the Contractor must provide approved welding procedures and/or a list of welding personnel intended to be used in the completion of the work. The list must identify the CWB welding procedure qualifications attained by each of the personnel listed and must be accompanied by a copy of each person's current CWB welding certification.

**24. Environmental Protection *(Not used)***

**25. Fueling and De-fueling a Crown Vessel *(Not used)***

## **26. Procedure for Design Change or Additional Work**

SACC Manual Clause B5007C (2010-01-11) Design Change or Additional Work

### **26.1 Price Breakdown:**

The Contractor must, upon request, provide a price breakdown for all unscheduled work, by specific activities with trades, person-hours, material, subcontracts and services.

### **26.2 Pro-rated Prices:**

Hours and prices for unscheduled work will be based on comparable historical data applicable to similar work at the same facility, or will be determined by pro-rating the quoted work costs in the Contract when in similar areas of the vessel.

## **27. Equipment/Systems: Inspection/Test**

Refer to Annex D for details on equipment and systems inspections and testing requirements.

## **28. Inspection and Test Plan**

The Contractor shall, in support of their QCP, implement an approved Inspection & Test Plan (ITP).

The Contractor shall provide at no additional cost to the Crown, all applicable test data, all Contractor technical data, test pieces and samples as may reasonably be required by the Inspection Authority to verify conformance to contract requirements. The Contractor shall forward at his expense such technical data, test data, test pieces and samples to such location as the Inspector may direct.

**Refer to Annex "D" for details on Inspection and Test Plan Requirements.**

## **29. Vessel Custody *(Not used)***

### **30 a. Vessel Unmanned Refits *(Not used)***

### **30 b. Vessel Manned Refits *(Not used)***

## **31. Pre-Refit Meeting**

A Pre-Refit meeting will be convened and chaired by the Contracting Authority at the Contractor's facility before the commencement of the work period.

## **32. Meetings**

Progress meetings, chaired by the Contracting Authority, will take place at the Contractor's facility as and when required, generally once a month. Interim meetings may also be scheduled. Contractor attendees at these meetings will, as a minimum, be its Contract (Project) Manager, Production Manager (Superintendent) and Quality Assurance Manager. Progress meetings will generally incorporate Technical meetings to be chaired by the Technical Authority.

### **33. Outstanding Work and Acceptance**

The Inspection Authority, in conjunction with the Contractor, will prepare a list of outstanding work items towards the end of the vessel Work Period. This list will form the annexes to the formal acceptance document for the vessel. A Contract Completion Meeting will be convened by the Inspector on the work completion date to review and sign off the Acceptance Document. In addition to any amount held under the Warranty Holdback Clause (see section 7.3 above), a holdback of twice the estimated value of outstanding work will be held until completion of said work.

The PWGSC-TPSGC 1205 Acceptance Document is to be completed and distribution is to be made by the Public Works and Government Services Canada Inspection Authority as follows:

- (a) original to the PWGSC Contracting Authority
- (b) one copy to the Technical Authority
- (c) one copy to contractor

### **34. Licensing**

The Contractor must obtain and maintain all permits, licenses and certificates of approval required for the work to be performed under any applicable federal, provincial or municipal legislation. The Contractor is responsible for any charges imposed by such legislation or regulations. Upon request, the Contractor must provide a copy of any such permit, license or certificate to Canada.

### **35. Hazardous Waste – Vessels *(Not used)***

### **36. Government Site Regulations**

SACC Manual Clause A9068C (2010-01-11), Government Site Regulations

### **37. Scrap and Waste Material**

SACC Manual Clause A9055D (2010-08-16), Scrap and Waste Material

### **38. Stability and Weight Management**

SACC Manual Clause B6100C (2008-05-12), Stability and Weight Management

### **39. Vessel - Access by Canada**

SACC Manual Clause A9066C (2008-05-12), Vessel - Access by Canada

### **40. Title to Property – Vessel *(Not used)***

### **41. Defence Contract *(Not used)***

### **42. Limitation of Contractor's Liability for Damages to Canada**

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1. This section applies despite any other provision of the Contract and replaces the section of the general conditions entitled "Liability". Any reference in this section to damages caused by the Contractor also includes damages caused by its employees, as well as its subcontractors, agents, and representatives, and any of their employees.
  2. Whether the claim is based in contract, tort, or another cause of action, the Contractor's liability for all damages suffered by Canada caused by the Contractor's performance of or failure to perform the Contract is limited to \$10 million per incident or occurrence to an annual aggregate of \$20 million for losses or damage caused in any one year of carrying out the Contract, each year starting on the date of coming into force of the Contract or its anniversary. This limitation of the Contractor's liability does not apply to nor include:
    - (a) Any infringement of intellectual property rights;
    - (b) Any breach of warranty obligations;
    - (c) Any liability of Canada to a third party arising from any act or omission of the Contractor in performing the Contract; or
    - (d) Any loss for which the policies of insurance specified in the Contract or any other policies of insurance held by the Contractor would provide insurance coverage.
  3. Each Party agrees that it is fully liable for any damages that it causes to any third party in connection with the Contract, regardless of whether the third party makes its claim against Canada or the Contractor. If Canada is required, as a result of joint and several liability, to pay a third party in respect of damages caused by the Contractor, the Contractor must reimburse Canada for that amount.
  4. The Parties agree that nothing herein is intended to limit any insurable interest of the Contractor nor to limit the amounts otherwise recoverable under any insurance policy. The Parties agree that to the extent that the insurance coverage required to be maintained by the Contractor under this Contract or any additional insurance coverage maintained by the Contractor, whichever is greater, is more than the limitations of liability described in sub article (2), the limitations provided herein are increased accordingly and the Contractor shall be liable for the higher amount to the full extent of the insurance proceeds recovered.
  5. If, at any time, the total cumulative liability of the Contractor for losses or damage suffered by Canada caused by the Contractor's performance of or failure to perform the Contract, excluding liability described under subsection 2(a), (b), (c) and (d) exceeds \$40 million, either Party may terminate the Contract by giving notice in writing to the other Party and neither Party will make any claim against the other for damages, costs, expected profits or any other such loss arising out of the termination. However, no such termination or expiry of the Contract shall reduce or terminate any of the liabilities that have accrued to the effective date of the termination but which liabilities are subject to the limitations as specified in sub-article (1) through (4) above.
  6. The date of termination pursuant to this Article, shall be the date specified by Canada in its notice to terminate, or, if the Contractor exercises the right to terminate, in a notice to the Contractor from Canada in response to the Contractor's notice to terminate. The date of termination shall be in Canada's discretion to a maximum of 12 months after service of the original notice to terminate served by either Party pursuant to sub-article 5, above.
  7. In the event of a termination under this Article, the Contract will automatically remain in force subject to all of the same terms and conditions until the date of termination and the Contractor agrees that it will be paid in accordance with the applicable provisions as set out in the Basis of



Solicitation No. - N° de l'invitation  
F3712-160019/A  
Client Ref. No. - N° de réf. du client  
F3712-160019

Amd. No. - N° de la modif.  
File No. - N° du dossier  
QCL-6-39125

Buyer ID - Id de l'acheteur  
qcl036  
CCC No./N° CCC - FMS No/ N° VME

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Payment, Annex B and that the Contractor's liability remains as specified in subarticles (1) through (4), above.

8. Nothing shall limit Canada's other remedies, including Canada's right to terminate the Contract for default for breach by the Contractor of any of its obligations under this Contract, notwithstanding that the Contractor may have reached any limitation of its liability hereunder.

Solicitation No. - N° de l'invitation  
F3712-160019/A  
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## ANNEX A

**See attached documents.**

## ANNEX B

### BASIS OF PAYMENT FIRM PRICE

**Remark to Bidder: Annex B will form the Basis of Payment for the resulting contract and should not be filled in at the bid submission stage. See annex 'I' – Financial Bid Presentation Sheet.**

#### B1 Contract Firm Price

A)	<b>Known Work</b> For work as stated in Clause 1.2 a), specified in Annex "A" and detailed in the attached Price Per Item Sheet Appendix 1 of Annex "I", <b>for a FIRM PRICE of:</b>	\$ _____
B)	<b>Total Firm Price :</b>	\$ _____

#### B2 Unscheduled Work

##### Payment for Unscheduled Work:

The Contractor will be paid for unscheduled work arising, as authorized by Canada. The authorized unscheduled work will be calculated as follows:

Number of hours (to be negotiated) X \$ \_\_\_\_\_, being the Contractor's firm hourly charge-out labour rate which includes overhead and profit, plus net laid-down cost of materials to which will be added a mark-up of ten (10) percent, plus Goods and Services Tax or Harmonized Sales Tax, if applicable, calculated at five (5) percent of the total cost of material and labour. The firm hourly charge-out labour rate and the material mark-up will remain firm for the term of the Contract and any subsequent amendments.

- B2.1:** Notwithstanding definitions or useage elsewhere in this document, or in the Bidder's Cost Management System, when negotiating *Hours* for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package.  
Elements of *Related Labour Costs* identified in B2.2 below, will not be negotiated, but will be included in the firm hourly Charge-out Labour Rate in accordance with paragraph B2.2
- B2.2:** Allowance for *Related Labour Costs* such as: Management, Direct Supervision, Purchasing and Material Handling, Quality Assurance and Reporting, First Aid, Gas Free Inspecting and Reporting, and Estimating will be included as *Overhead* within the *firm hourly Charge-out Labour Rate* entered in line B2 above.
- B2.3:** The 10% mark-up rate for materials will also apply to subcontracted costs. The mark-up rate includes any allowance for material and subcontract management not allowed for in the Chargeout Labour Rate. The Contractor will not be entitled to a separate labour component for the purchase and handling of materials or subcontract administration.
- B2.4:** The Contractor will be reimbursed for the authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, in accordance with Contract Cost Principles 1031-2, with no allowance for profit and/or administrative overhead. All payments are subject to government audit.

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### B3 Overtime

No overtime work shall be compensated for under the Contract unless authorized in advance and in writing by the Contracting Authority. Any request for payment must be accompanied by a copy of the overtime authorization and a report containing such details as Canada may require with respect to the overtime work performed. Compensation for authorized overtime will be calculated in the following manner:

- a. For Known Work, the Contractor will be paid the original contract price plus agreed overtime hours paid at the following premium rates;
- b. For Unscheduled Work, the Contractor will be paid for agreed overtime hours paid at the *firm hourly Charge-out Labour Rate* above plus the following premium rates:

Premium for Time and one half: \$ \_\_\_\_\_ per hour; *or*,

Premium for Double time: \$ \_\_\_\_\_ per hour

The above premiums rates shall be calculated as follows:

Premium for time and one half:

$\frac{1}{2}$  (that portion of the firm Hourly Charge-out Labour Rate in B2 that is directly attributable to salary cost plus related certified fringe benefits) times 7.5% (representing profit)

Premium for double time:

$\frac{1}{2}$  (that portion of the Unscheduled Work firm Charge-out Labour Rate in B2 that is directly attributable to salary cost plus related certified fringe benefits) times 7.5% (representing profit)

These premiums will remain firm for the duration of the Contract, including all amendments and are subject to audit by Canada, and to retroactive adjustment if Canada discovers that the premiums have not been calculated in accordance with the formulae, above.

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## ANNEX C

### INSURANCE REQUIREMENTS

#### C.1 Commercial General Liability Insurance (2014-06-26)

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$2,000,000 per accident or occurrence and in the annual aggregate.
2. The Commercial General Liability policy must include the following:
  - a) Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.
  - b) Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
  - c) Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.
  - d) Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
  - e) Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
  - f) Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
  - g) Employees and, if applicable, Volunteers must be included as Additional Insured.
  - h) Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)
  - i) Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.
  - j) Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
  - k) If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
  - l) Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.
  - m) Amendment to the Watercraft Exclusion to extend to incidental repair operations on board watercraft.
  - n) Sudden and Accidental Pollution Liability (minimum 120 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.

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## ANNEX D

### INSPECTION/QUALITY ASSURANCE/QUALITY CONTROL

#### D.1 Inspection and Test Plan (ITP):

1. The Contractor must prepare an Inspection and Test Plan (ITP) comprising individual inspection and test plans for each specification item of this project, in accordance with the Quality Standard and its Quality Control Plan. The ITP must be submitted to the Inspection Authority for review and amended by the Contractor to the satisfaction of the Inspection Authority.

- (a) Each ITP must contain all inspection points identified in the Technical Specification highlighting any mandatory points that must be witnessed by the Inspection Authority and other "hold" points imposed by the Contractor to ensure the quality of the work.
- (b) Milestone delivery date for the ITP is given in the Contract, however individual ITPs should be forwarded for review as developed.

#### 2. Coding:

- (a) Each Inspection and Test Plan (ITP) is to be coded for identification clearly demonstrating a systematic approach similar to the following (Contractor's system should be defined in its Quality Control Plan):

- (i) Prefixes for Inspections, Test and Trials:

Prefix "1" is a Contractor inspection, i.e. 1H-10-01, 1H-10-02;

prefix "2" is a Contractor post repair test, i.e. 2H-10-01; and

prefix "3" is a Contractor post repair trial, i.e. 3H-10-01.

- (b) Specification items followed by assigned sequence numbers for inspection processes within each Specification Item; and

- (c) Cross reference to a verification document number

#### 3. Inspection and Test Plan Criteria:

Inspection criteria, procedures and requirements are stated in the specifications, drawings, technical orders and reference standards invoked by the Specifications. Test and trial documentation may also be included or referenced in the Specifications. An individual Inspection and Test Plan (ITP) is required for each Specification item.

- (a) All ITPs must be prepared by the Contractor in accordance with the above criteria, its Quality Plan, and must provide the following reference information:
  - (i) the ship's name;
  - (ii) the Specification item number;
  - (iii) equipment/system description and a statement defining the parameter which is being inspected;

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- (iv) a list of applicable documents referenced or specified in the inspection procedure;
  - (v) the inspection, test or trial requirements specified in the Technical Specification;
  - (vi) the tools and equipment required to accomplish the inspection;
  - (vii) the environmental conditions under which the inspections are to be conducted and the tolerances on the inspection conditions;
  - (viii) a detailed step-by step procedure of how each inspection is to be performed, conformance parameters, accept/reject criteria and recording of results, deficiencies found and description of corrective action(s) required;
  - (ix) name and signature of the person who prepared the plan, date prepared and amendment level; and,
  - (x) names and signatures of the persons conducting and witnessing the inspection, test or trial.

4. Contractor Imposed Testing:

Tests and trials in addition to those given in the Technical Specification must be approved by the Inspection Authority.

- (a) Amendments: Amendment action for the Inspection and Test Plans must be ongoing throughout the refit and reflect the inspection requirements for unscheduled work. Amendments must be submitted as developed, but not less frequently than once every second week.

**D.2 Conduct of Inspection**

1. Inspections must be conducted in accordance with the ITP.
2. The Contractor must provide its own staff or subcontracted staff to conduct inspections, tests and trials; excepting that Technical Authority or Inspection Authority personnel may be designated in the specifications, in which case the Contractor must ensure that its own staff are provided in support of such inspection/test/trial.
3. The Contractor must ensure that the required conditions stated in the ITP prevail at the commencement of, and for the duration of, each inspection/test/trial.
4. The Contractor must ensure that personnel required for equipment operation and records taking during the inspection/test/trial are briefed and available at the start and throughout the duration of the inspection/test/trial. Tradesmen or FSRs who may be required to effect minor changes or adjustments in the installation must be available at short notice.
5. The Contractor is to coordinate the activities of all personnel taking part in each inspection/test/trial and ensure that safe conditions prevail throughout the inspection/test/trial.

**D.3 Inspection Records and Reports**

1. The Contractor on the inspection record, test or trials sheets as applicable must record the results of each inspection. The Contractor must maintain files of completed inspection records consistent with the Quality Standard and its Quality Plan for this project.
2. The Contractor's QC representative (and the FSR when required) must sign as having witnessed the inspection, test or trial on the inspection record. The Contractor must forward originals of completed inspection records, together with completed test(s) and/or trials sheets to the Inspection Authority as they are completed.

3. Unsatisfactory inspection/test/trial results, for which corrective action cannot be completed during the normal course of the inspection/test/trial, will require the Contractor to establish and record the cause of the unsatisfactory condition to the satisfaction of the Inspection Authority. Canada's representatives may assist in identification where appropriate.
4. Corrective action to remove cause of unsatisfactory inspections must be submitted to the Inspection Authority in writing by the Contractor, for approval before affecting such repairs and rescheduling of the unsatisfactory inspection/test/trial. Such notices must be included in the final records passed to the Inspection Authority.
5. The Contractor must undertake rectification of defects and deficiencies in the Contractor's installation or repair as soon as practicable. The Contractor is responsible to schedule such repairs at its own risk.
6. The Contractor must reschedule unsatisfactory inspections after any required repairs have been completed.
7. Quality Control, Inspection and Test records that substantiate conformance to the specified requirements, including records of corrective actions, must be retained by the Contractor for three (3) years from the date of completion or termination of the Contract and must be made available to the Inspection Authority upon request.

#### **D.4 Inspection and Trials Process**

1. Drawings and Purchase Orders
  - (a) Upon receipt of two (2) copies of each drawing or purchase order, the designated Inspection Authority will review its content against the provisions of the Specifications. Where discrepancies are noted, the Inspection Authority will formally advise all concerned, in writing using a Discrepancy Notice. The resolution of any such discrepancy is a matter for consultation between the Contractor and other Crown Authorities.

**The Inspection Authority is NOT responsible for the resolution of discrepancies.**

2. Inspection
  - (a) Upon receipt and acceptance of the Contractor's ITP, inspection will consist of a number of Inspection Points supplemented by such other inspections, tests, demonstrations and trials as may be deemed necessary by the Inspection Authority to permit him to certify that the work has been performed in compliance with the provisions of the Specifications. The Contractor must be responsible for notifying the designated Inspection Authority of when the work will be available for inspection, sufficiently in advance to permit the designated Inspection Authority to arrange for the appropriate inspection.
  - (b) The Inspection Authority will inspect the materials, equipment and work throughout the project against the provisions of the Technical Specification and, where non-conformances are noted, will issue appropriate **INSPECTION NON-CONFORMANCE REPORTS**.
  - (c) The Contract requires the implementation of a Quality Assurance/Quality Control system, so the Inspection authority must require that the Contractor provide a copy of its internal inspection report pertaining to a work item before conducting the requested inspection. If third party inspections are required by the Contract (e.g. inspections by a certified CWB 178.2 welding inspector), the reports of these inspections must be required before the Work is inspected by the Inspection Authority.



- (d) The QA/QC system is a requirement, so if the documentation is presented to the Inspection Authority before an inspection stating that the Work is satisfactory but the Inspection Authority finds that the Work has not been satisfactorily inspected, the Inspection Authority must issue an Inspection Non-conformance Report against the Work and another against the failure of the Contractor's QA/QC system.
- (e) Before carrying out any inspection, the Inspection Authority must review the requirements for the Work and the acceptance and/or rejection standards to be applied. Where more than one standard or requirement is called up and they are potentially conflicting, the Inspection Authority must refer to the order of precedence in the Contract to determine the standard or requirement to be applied.

### 3. Inspection Non-conformance report

- (a) An Inspection Non-conformance report will be issued for each non-conformance noted by the Inspection Authority. Each report will be uniquely numbered for reference purposes, will be signed and dated by the Inspection Authority, and will describe the non-conformance.
- (b) When the non-conformance has been corrected by the Contractor and has been re-inspected and accepted by the Inspection Authority, the Inspection Authority will complete the Report by adding an applicable signed and dated notation.
- (c) At the end of the project, the content of all Inspection Non-conformance Reports which have not been signed-off by the Inspection Authority will be transferred to the Acceptance Documents before the Inspection Authority's certification of such documents.

### 4. Tests, Trials, and Demonstrations

- (a) To enable the Inspection Authority to certify that the Work has been performed satisfactorily, in accordance with the Contract and Specifications, the Contractor must schedule, co-ordinate, perform, and record all specified Tests, Trials and Demonstrations required by the Inspection Authority.
- (b) Where the Specifications contain a specific performance requirement for any component, equipment, sub-system or system, the Contractor must test such component, equipment, sub-system or system to the satisfaction of the Inspection Authority, to prove that the specified performance has been achieved and that the component, equipment, sub-system or system performs as required by the specifications.
- (c) Tests, trials and demonstrations must be conducted in accordance with a logical, systematic schedule which must ensure that all associated components and equipment are proven before sub-systems demonstration or testing, and that sub-systems are proven before system demonstration or testing.
- (d) Where the Specifications do not contain specific performance requirements for any component, equipment, sub-system or system, the Contractor must demonstrate such component, equipment, sub-system or system to the satisfaction of the Inspection Authority.
- (e) The contractor must submit its Test and Inspection Plan as indicated in section D.1 above.

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- (f) The Contractor must co-ordinate each test, trial and demonstration with all interested parties, including the Inspection Authority; Contracting and Technical Authorities; regulatory authorities; Classification Society; Sub-contractors; etc. The Contractor must provide the Inspection Authority and other Crown Authorities with a minimum of five working days notice of each scheduled test, trial, or demonstration.
  - (g) The Contractor must keep written records of all tests, trials, and demonstrations conducted.
  - (h) The Contractor must in all respects be responsible for the conduct of all tests and trials in accordance with the requirements of the Contract.
  - (i) The Inspection Authority and the Technical Authority reserve the right to defer starting or continuing with any sea trials for any reasonable cause including but not limited to adverse weather, visibility, equipment failure or degradation, lack of qualified personnel and inadequate compliance with safety standards.

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## ANNEX E

### WARRANTY

***General Conditions 2030 (2016-04-04) - Higher Complexity Goods, are hereby amended by deleting section 2030 22 (2014-09-25), Warranty and replacing it as follows:***

#### **E.1 Section 22 Warranty**

1. At the discretion of the Minister, the Contractor will replace or make good at its own expense any finished work, excluding Government Issue incorporated therein, which becomes defective or which fails to conform to contract requirements as a result of faulty or inefficient manufacture, material or workmanship.

2. Notwithstanding prior acceptance of the finished work, and without restricting any other term of the Contract or any condition, warranty or provision implied or imposed by law, the Contractor hereby warrants that the following shall be free from all defects and shall conform with the requirements of the contract:

- (a) The painting of the underwater portion of the hull for a period of three hundred and sixty-five (365) days commencing from the date of undocking, except that the Contractor will only be liable to repair and/or replace to a value to be determined as follows:

Original cost to Canada of the underwater painting Work, divided by three hundred and sixty-five (365) days and multiplied by the number of days remaining in the warranty period. The resultant would represent the "Dollar Credit" due to Canada from the Contractor.

- (b) All other painting Work for a period of three hundred and sixty-five (365) days commencing from the date of acceptance of the Work;
- (c) All parts and material provided by the Contractor for a period of three hundred and sixty-five (365) days commencing from the date of acceptance of such parts or material;
- (d) All other items of Work for a period of ninety (90) days commencing from the date of acceptance of the Work, except that:
  - (i) the warranty on the Work related to any system or equipment not immediately placed in continuous use or service shall extend for a period of ninety (90) days from the date of acceptance of the vessel;
  - ii) for all outstanding defects, deviations, and Work items listed on the Acceptance Document at Delivery, the Warranty will be ninety (90) days from the subsequent date of acceptance for each item.

3. If more than one warranty period applies, in accordance with the above, to any Work, then the warranty shall be for the longest period.

4. The Contractor agrees to pass to Canada, and exercise on behalf of Canada, all warranties on the Materials supplied or held by the Contractor which exceed the periods indicated Above.

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## **E.2 Warranty Procedures**

### **E2.1 Scope**

- a. The following are the procedures which suit the particular requirements for warranty considerations for a vessel on completion of a refit.

### **E2.2 Definition**

- a. There are a number of definitions of "warranty" most of which are intended to describe its force and effect in law. One such definition is offered as follows:

"A warranty is an agreement whereby the vendor's or manufacturer's responsibility for performance of its product is extended for a specific period of time beyond the date at which the title to the product passes to the buyer."

### **E2.3 Warranty Conditions**

- a. General Conditions 2030, Higher Complexity - Goods are augmented by clauses incorporated into the subject Contract.
- b. The warranty periods may be stated in more than one part.
  - i. 90 days commencing from the day the PWGSC 1205 Acceptance Document is signed for workmanship provided by the contractor for the refit work specified;
  - ii. 365 days from the date of undocking the vessel for the specified areas of underwater paint and topside painting;
  - iii. 365 days commencing from the day the PWGSC 1205 Acceptance Document is signed for parts and material provided by the contractor for the refit work specified;
  - iv. Any other specific warranty periods that may be required in the contract or offered by the Contractor.
- c. The foregoing does not cover the disposition of other deficiencies that will be directly related to Technical Authority problem areas of the following nature:
  - i. items becoming unserviceable that were not included in the refit specification;
  - ii. refit specifications or other related documentation requiring amendments or corrections to increase viability; and
  - iii. work performed that is directly related to the Technical Authority.

### **E2.4 Reporting Failures With Warranty Potential**

- a. The initial purpose of a report of a failure is to facilitate the decision as to whether or not to involve warranty and to generate action to effect repairs. Therefore in addition to identification, location data, etc. the report must contain details of the defect. Warranty decisions as a general rule are to be made locally and the administrative process is to be in accordance with procedures as indicated.
- b. These procedures are necessary as invoking a warranty does not simply mean that the warrantor will automatically proceed with repairs at his expense. A review of the defect may well result in a disclaimer of responsibility, therefore, it is imperative that during such a review the Department is

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directly represented by competent technical authority qualified to agree or disagree with the warrantor's assertions.

## **E2.5 Procedures**

- a. Immediately it becomes known to the Ship's Staff that an equipment/system is performing below accepted standards or has become defective, the procedures for the investigation and reporting are as follows:

- i. The vessel advises the Technical Authority when a defect, which is considered to be directly associated the refit work, has occurred.
- ii. On review of the Specification and the Acceptance Document, the Technical Authority in consort with Ship's Staff is to complete the Tombstone Data and section 1 of the Warranty Claim Form and forward the original to the Contractor for review with a copy to the PWGSC Contracting Authority. If the PWGSC Contracting or Inspection Authority is unable to support warranty action, the Defect Claim Form will be returned to the originator with a brief justification. (It is to be noted that in the latter instance PWGSC will inform the Contractor of its decision and no further action will be required of the Contractor.

Warranty defect claims may be forwarded in hard copy, by fax or by e-mail whichever format is the most convenient.

- iii. Assuming the Contractor accepts full responsibility for repair, the Contractor completes Section 2 and 3 of the Warranty Claim Form, returns it to the Inspection Authority who confirms corrective action has been completed, and who then distributes the form to the Technical Authority and the PWGSC Contracting Authority.
- b. In the event that the Contractor disputes the claim as a warranty defect, or agrees to share, the contractor is to complete Part 2 of the Warranty Claim Form with the appropriate information and forward it to the Contracting Authority who will distribute copies as necessary.
- c. When a warranty defect claim is disputed by the Contractor, the Technical Authority may arrange to correct the defect by in-house resources or by contracting the work out. All associated costs must be tracked and recorded as a possible charge against the contractor by PWGSC action. Material costs and manhours expended in correcting the defect are to be recorded and entered in Section 5 of the warranty defect claim by the Technical Authority who will forward the warranty defect claim to the PWGSC Contracting Authority for action. Defective parts of equipment are to be retained pending settlement of claim.
- d. Defective equipment associated with potential warranty should not normally be dismantled until the contractor's representative has had the opportunity to observe the defect. The necessary work is to be undertaken through normal repair methods and costs must be segregated as a possible charge against a contractor by PWGSC action.

## **E2.6 Liability**

- a. Agreement between the Contracting Authority, Inspection Authority, Technical Authority and the Contractor will result in one of the following conditions:

- 
- i. The contractor accepts full responsibility for costs to repair or overhaul under the warranty provisions of the contract;
  - ii. The Technical Authority accepts full responsibility for repair and overhaul of item concerned;  
or
  - iii. The Contractor and the Technical Authority agree to share responsibility for the costs to repair or overhaul the unserviceable item, in such cases the PWGSC Contracting Authority will negotiate the best possible sharing arrangement.
- b. In the event of a disagreement as in paragraph 5c, PWGSC will take necessary action with the contractor while the Technical Authority informs its Senior Management including pertinent data and recommendations.
  - c. The total cost of processing warranty claims must include accommodation and travel costs of the contractor's employees as well as equipment/system down time and operational constraints. Accordingly, the cost to remediate the defect, in manhours and material, will be discussed between the Contracting/Inspection Authorities and the Technical Authority to determine the best course of action.

#### **E2.7 Alongside Period For Warranty Repairs and Checks**

- a. If at all possible, an alongside period for the vessel is to be arranged just before the expiration of the 90 day warranty period. This alongside period is to provide time for warranty repair and check by the contractor.
- b. In respect to the underwater paint, should it become defective during the associated warranty period the contractor is only liable to repair to a value determined as follows :  
  
"Original cost to Canada for painting and preservation of the underwater section of the hull, divided by three hundred and sixty-five (365) days and multiplied by the number of days remaining in the three hundred and sixty-five (365) days warranty period. The resultant would represent the 'Dollar Credit' due to Canada from the Contractor."
- c. The Underwater paint system, before expiration of the warranty, should be checked by divers. The Technical Authority, is to arrange the inspection and inform the Contracting Authority of any adverse results.

Solicitation No. - N° de l'invitation  
F3712-160019/A  
Client Ref. No. - N° de réf. du client  
F3712-160019

Amd. No. - N° de la modif.  
File No. - N° du dossier  
QCL-6-39125

Buyer ID - Id de l'acheteur  
qcl036  
CCC No./N° CCC - FMS No/ N° VME

## Appendix 1 of Annex E



Public Works and  
Government  
Services Canada

Travaux publics et Services  
gouvernementaux Canada

### Warranty Claim Réclamation De Garantie

Vessel Name – Nom de navire	File No. – N° de dossier	Contract No. - N ° de contrat
Customer Department – Ministère client		Warranty Claim Serial No. Numéro de série de réclamation de garantie
Contractor – Entrepreneur		<b><u>Effect on Vessel Operations</u></b> <b><u>Effet sur des opérations de navire</u></b>  Critical      Degraded      Operational Non-operational  Critique      Dégradé      Opérationnel Non-opérationnel

### 1. Description of Complaint – Description de plainte

Contact Information – l'information de contact

Name – Nom

Tel. No. - N ° Tél

Signature – Signature

Date

### 2. Contractor's Investigative Report – Le rapport investigateur de l'entrepreneur

Solicitation No. - N° de l'invitation  
F3712-160019/A  
Client Ref. No. - N° de réf. du client  
F3712-160019

Amd. No. - N° de la modif.  
File No. - N° du dossier  
QCL-6-39125

Buyer ID - Id de l'acheteur  
qcl036  
CCC No./N° CCC - FMS No/ N° VME

---

### 3. Contractor's Corrective Action – La modalité de reprise de l'entrepreneur

---

Contractor's Name and Signature – Nom et signature de l'entrepreneur  
Corrective Action - Date de modalité de reprise

Date of

---

Client Name and Signature - Nom et signature de client  
Date

### 4. PWGSC Review of Warranty Claim Action – Examen d'action de réclamation de garantie par TPSGC

Date

---

Signature – Signature



Solicitation No. - N° de l'invitation  
F3712-160019/A  
Client Ref. No. - N° de réf. du client  
F3712-160019

Amd. No. - N° de la modif.  
File No. - N° du dossier  
QCL-6-39125

Buyer ID - Id de l'acheteur  
qcl036  
CCC No./N° CCC - FMS No/ N° VME

---

## **ANNEX F**

### **VESSEL CUSTODY**

*(Not used)*

Solicitation No. - N° de l'invitation  
F3712-160019/A  
Client Ref. No. - N° de réf. du client  
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qcl036  
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---

## ANNEX G

### SECURITY REQUIREMENTS CHECK LIST

*(Not used)*

Solicitation No. - N° de l'invitation  
F3712-160019/A  
Client Ref. No. - N° de réf. du client  
F3712-160019

Amd. No. - N° de la modif.  
File No. - N° du dossier  
QCL-6-39125

Buyer ID - Id de l'acheteur  
qcl036  
CCC No./N° CCC - FMS No/ N° VME

---

## **ANNEX H**

### **PROJECT MANAGEMENT SERVICES**

*(not used)*

## ANNEX I

### FINANCIAL BID PRESENTATION SHEET

#### 11 Price for Evaluation

<b>A)</b>	<b>Known Work</b> For work as stated in Clause 1.2 a), specified in Annex "A" and detailed in the attached Price Per Item Sheet, Appendix 1 of Annex "I", <b>for a FIRM PRICE of:</b>	\$ _____
<b>B)</b>	<b>Unscheduled Work</b> Contractor <i>Labour Cost</i> : Estimated labour hours at a firm <i>hourly Charge-out Labour Rate</i> , including overhead and profit for evaluation purpose only: 400 person hours X \$ _____ per hour <b>for a PRICE of :</b> <i>See Note I2.1 and I2.2 below.</i>	\$ _____
<b>C)</b>	<b>EVALUATION PRICE</b> Applicable taxes excluded [A + B]:  <b>TOTAL EVALUATION PRICE of :</b>	\$ _____

#### 12 Unscheduled Work

The Contractor will be paid for unscheduled work arising, as authorized by the Minister, calculated in the following manner:

"Number of hours (to be negotiated) X \$ \_\_\_\_\_ your firm *hourly Charge-out Labour Rate* which includes *Overhead* and profit, plus net laid-down cost of materials to which shall be added a 10% mark-up, plus Applicable Taxes. The firm *hourly Charge-out Labour Rate* and the material mark-up will remain firm for the duration of the Contract and any subsequent amendments thereto."

- 12.1:** Notwithstanding definitions or usage elsewhere in this document, or in the Bidder's Cost Management System, when negotiating *Hours* for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package.  
Elements of Related Labour Costs identified in I2.2 below, will not be negotiated, but will be compensated for in accordance with paragraph I2.2. It is therefore incumbent upon the Bidder to enter values in the above table which will result in fair compensation, regardless of the structure of their Cost Management System.
- 12.2:** Allowance for *Related Labour Costs* such as: Management, Direct Supervision, Purchasing and Material Handling, Quality Assurance and Reporting, First Aid, Gas Free Inspecting and Reporting, and Estimating will be included as *Overhead* for the purposes of determining the *Charge-out Labour Rate* entered in line I2 above.

- 12.3:** The 10% mark-up rate for materials will also apply to subcontracted costs. The mark-up rate includes any allowance for material and subcontract management not allowed for in the Chargeout Labour Rate. The Contractor will not be entitled to a separate labour component for the purchase and handling of materials or subcontract administration.
- 12.4:** The Contractor will be reimbursed for the authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, in accordance with Contract Cost Principles 1031-2, with no allowance for profit and/or administrative overhead. All payments are subject to government audit.

### 13 Overtime

No overtime work shall be compensated for under the Contract unless authorized in advance and in writing by the Contracting Authority. Any request for payment must be accompanied by a copy of the overtime authorization and a report containing such details as Canada may require with respect to the overtime work performed. Compensation for authorized overtime will be calculated in the following manner:

- a. For Known Work, the Contractor will be paid the original contract price plus agreed overtime hours paid at the following premium rates;
- b. For Unscheduled Work, the Contractor will be paid for agreed overtime hours paid at the quoted *Charge-out Labour Rate* plus the following premium rates:

Premium For Time and one half: \$ \_\_\_\_\_ per hour; or,

Premium For Double time: \$ \_\_\_\_\_ per hour

Premium for time and one half:

$\frac{1}{2}$  (that portion of the firm Hourly Charge-out Labour Rate in I2 that is directly attributable to salary cost plus related certified fringe benefits) times 7.5% (representing profit)

Premium for double time:

(that portion of the Unscheduled Work firm Charge-out Labour Rate in I2 that is directly attributable to salary cost plus related certified fringe benefits) times 7.5% (representing profit)

These premiums will remain firm for the duration of the Contract, including all amendments and are subject to audit by Canada, and to retroactive adjustment under the Contract if Canada discovers that the premiums have not been calculated in accordance with the formulae, above.

**Appendix 1 of Annex I**

PRICE PER ARTICLE SHEET				
SCHEDULED WORK				Total Firm Price (CAD)
Item	Description	Quantity	Unit Price	
1	Supply*, completion of installation and interfacing of all the components required for the first AHSL, including the delivery of all equipment, acceptance of tests and trials, completion of training and supply* of all documentation as well as all living and travelling expenses for the Contractors employees and its subcontractors employees.	1	\$ _____ (Each)	\$ _____
OPTIONAL SCHEDULED WORK**				
2	Supply*, completion of installation and interfacing of all the components required for optional AHSL, including the delivery of all equipment, acceptance of tests and trials, completion of training and supply* of all documentation as well as all living and travelling expenses for the Contractors employees and its subcontractors employees.	4	\$ _____ (Each)	\$ _____
Subtotal A (Scheduled Work + Optional Scheduled Work) :				\$ _____

\* Customs duties are included and all applicable taxes are extra, if applicable.

\*\* Canada may exercise all or part of the options under the terms of clauses 4. – Term of Contract, of Part 7.

**Remark to Bidders:**

Canada may reject the bid if any of the prices submitted do not reasonably reflect the cost of performing the part of the work to which that price applies.



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada



## **DEPARTMENT OF FISHERIES AND OCEANS**

### **ANNEX A**

#### **Technical Statement of Requirements (TSOR)**

**Requisition number: F3712-160019**

**Conversion of a CHS hydrographic survey launch to an  
Autonomous Hydrographic Survey Launch (AHSL)**

**October 26<sup>th</sup>, 2016 – Version 9**

## Document Control

### Record of Amendments

#	Date	Description	Initials
1	July 6, 2016	1 <sup>st</sup> draft	BT
2	July 13, 2016	2 <sup>nd</sup> draft	BT/EL
3	July 14, 2016	3 <sup>rd</sup> draft	BT/EL
4	August 9, 2016	4 <sup>th</sup> draft – Following comments from M. Gagnon	BT/MG
5	August 31, 2016	5 <sup>th</sup> draft	BT/RC
6	September 16 <sup>th</sup> , 2016	6 <sup>th</sup> draft – after team work	RC/EL/BT
7	October 7 <sup>th</sup> , 2016	7 <sup>th</sup> draft – Following comments from M. Gagnon	EL/MG/BT
8	October 11 <sup>th</sup> , 2016	8 <sup>th</sup> draft – Last updates	EL
9	October 26 <sup>th</sup> , 2016	9 <sup>th</sup> draft – Last updates	RC, EL, MG



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## **ABBREVIATIONS**

ABYC	American Boat and Yacht Council
AC	Alternating Current
AHSL	Autonomous Hydrographic Survey Launch
AIS	Automated Identification System
CHS	Canadian Hydrographic Service
CSA	Canada Shipping Act
CSA	Canadian Standards Association
COLREGS	Collision Regulations
DC	Direct Current
DFO	Department of Fisheries and Oceans
GPS	Global Positioning System
ISO	International Organization for Standardization
TSOR	Technical Statement of Requirements
UV	Ultraviolet
VHF	Very High Frequency

## **LIST OF REFERENCE DOCUMENTS**

<b>REFERENCE</b>	<b>TITLE</b>
TP 1332	Construction Standards for Small Boats <a href="https://www.tc.gc.ca/eng/marinesafety/tp-tp1332-menu-521.htm">https://www.tc.gc.ca/eng/marinesafety/tp-tp1332-menu-521.htm</a>
ISO 12217	Small Boat – Stability and Buoyancy Assessment and Categorization
Canada Shipping Act	Small Vessel Regulations
Canada Shipping Act	Collision Regulations (COLREGS)
ABYC	American Boat and Yacht Council Standards
Canadian Standards Association (CSA) CSA W47.2-M1987	Certification of Companies for Fusion Welding of Aluminium
(CSA) C22.2 No. 183.2-M1983	Standards for DC Electrical Installations on Boats

## 1. PURPOSE

The Canadian Department of Fisheries and Oceans (DFO) buys manages and operates numerous vessels in support of its departmental programs and other missions.

This requirement is for the conversion of one (1) Canadian Hydrographic Service (CHS) survey launch trademark Lifetimer, "Pleasure Serie – 2700" model to a safely unmanned Autonomous Hydrographic Survey Launch (AHSL) while retaining regular manned operations. So, after conversion, the CHS launch will be able to operate in regular manned mode as it does now or autonomously (unmanned). The working environment of this survey launch is for ports and inshore hydrographic operations. The specifications must be written in regards of the following requirements.

The system, in this autonomous version, must provide access of all vehicle and hydrographic functions. This system must include:

- AHSL control equipment (materials and software's embedded, controls, electronics systems, network components, rack installation, radio link for communication and associated components);
- Communication component between the AHSL and the remote components (hardware and software, radio communication, network link and associated components);
- Remote control component (remote control, buttons, screens, software);
- User interface software component (hardware and software, rugged portable pc and associated components).

The requisition must include the costs for:

- Engineering and system design solution;
- The components fabrication (mechanical and electrical). This component will be constructed at the contractor facilities;
- Supply and installation of new material (controllers, interface electronics, network systems, rack installation, cameras, antennas and associated components). The new material must be installed on the launch at the Fisheries and Oceans facilities at Mont-Joli (Quebec state);
- Hardware and software for the autonomous operations mode;

- Gears for switching unmanned/manned operations;
- Full systems documentation and formation;
- Trials and acceptance tests as well as licenses.

The primary role of this launch will be to support the CHS survey operations in Canada's three ocean coasts as well as inland and inshore waters. Options to transform 1 to 4 extra Lifetimer launches or other launches with similar specifications could be considered. These vessels could be based in Burlington (Ontario), Mont-Joli (Quebec), Dartmouth (Nova Scotia), and Sidney (British Columbia).

In the following technical sections 2 to 10 inclusively, under the "RANK" column, all items ranked with "M" are mandatory, while those ranked with "NM" are not mandatory, but will be used for the technical evaluation.

## 2. DESIGN AND CONSTRUCTION

REQUIREMENTS		RANK
<b>2.1 General</b>	Contractor's design solution must be reviewed and approved by CHS Technical Authority before the beginning of vessel conversion. The Technical Authority reserves the right to modify the initial design during the works. Unless stated otherwise all components, equipment and material must be contractor supplied.	<b>M</b>
<b>2.2 Ergonomic Design</b>	Hazardous operating conditions must be prevented through the following measures: arranging machinery and equipment in a safe manner; providing guards for all electrical, mechanical and thermal hazards to staff and survey equipment; and providing guards or covers for any controls that might accidentally be activated by contact of staff. Accessibility, visibility, readability and installation efficiency are ergonomic factors to be taken into account in the design. Equipment must be accessible for use, inspection, cleaning and maintenance.	<b>M</b>
<b>2.3 Vibration</b>		
2.3.1	All new installed components must be free of local vibration that could damage launch structure, machinery and systems, or interfere with the operation and maintenance of machinery or embedded systems.	<b>M</b>
2.3.2	Loosening of fasteners under vibration must be prevented by the use of self-locking fasteners, if necessary.	<b>M</b>
<b>2.4 Equipment Protection</b>	During construction and before delivery, the Contractor is responsible for the care of all equipment. All parts, especially those having working surfaces or passages intended for lubricating oil, must be kept clean and protected during manufacture, storage, assembly and after installation. Equipment must at all times be protected against dust, moisture or foreign matter and must not be subject to rapid temperature changes or to temperature extremes.	<b>M</b>

<p><b>2.5 Site Cleanliness</b></p> <p>During construction, all chips, shavings, refuse, dirt and water must be removed at the completion of the work shift or sooner. The Contractor must ensure measures are taken to avoid wear and damage incident to the launch during the installation and to prevent corrosion or other deterioration. Equipment subject to freezing must be kept drained, except during test and trials. Equipment must be kept clean and protected from the environment prior to installation.</p>	<b>M</b>
<p><b>2.6 Structural Strength</b></p> <p>All new structures and components including: racks, antennas, cameras and controls must be of sufficient strength to withstand impact that equates to the conditions of the operational requirements.</p>	<b>M</b>
<p><b>2.7 Standards</b></p> <p>Modifications of the vessel must be designed, constructed, inspected and certified to meet the requirements of the following standards, regulations and codes:</p>	
<p>2.7.1 Transport Canada Marine Safety Regulation TP 1332 (current edition) Construction Standards for Small Boats. This standard references ISO and ABYC standards covering structure, electrical, stability and drainage requirements;</p>	<b>M</b>
<p>2.7.2 CSA C22.2 No. 183.2-M1983 – Standards for DC Electrical Installations on vessels and ABYC “E” Electrical Standards;</p>	<b>M</b>



<b>2.8 Materials</b>	
2.8.1 All materials must be corrosion resistant and suitable for use in a salt water environment as detailed in the Operational Requirements. All materials normally subjected to sunlight must resist degradation caused by UV radiation. Galvanized materials are unacceptable.	<b>M</b>
2.8.2 Direct contact of electrolytically dissimilar metals is not allowed. Electrolytic corrosion must be prevented by insulating dissimilar materials from each other with gaskets, washers, sleeves, or bushings of suitable insulating material.	<b>M</b>
2.8.3 Stainless steel type 316L or 316 must be used for all stainless steel applications except as noted. Alloy 316L must be used in any welded underwater components.	<b>M</b>
2.8.4 Fittings and clamps must be stainless steel. Bolts used in all fittings must be Type 316 stainless steel.	<b>M</b>
2.8.5 Where flexible connections are required for steering or other components, suitable hose with permanently crimped, detachable reusable type fittings must be used.	<b>M</b>
2.8.6 All materials and equipment must be stored, installed and tested in accordance with the manufacturer's guidelines, recommendations and requirements.	<b>M</b>
<b>2.9 Fasteners</b>	
2.9.1 All fasteners must be of corrosion resistant materials.	<b>M</b>
2.9.2 Cadmium plated parts and fasteners, including washers, must not be used.	<b>M</b>
2.9.3 Direct attachment of alloys containing copper to aluminium is not permitted except for an electrical bonding strap.	<b>M</b>
2.9.4 Where nuts will become inaccessible after the installation of the equipment on the launch, nuts must be captured or anchored to allow reassembly and prevent backing off.	<b>M</b>
2.9.5 Unless otherwise specified, self-locking nuts must be installed to prevent loosening of fasteners due to shock and vibration.	<b>M</b>
<b>2.10 Electrical Systems</b>	
Added electrical components selection and installation must be in accordance with the latest versions of the Canadian Standards Association C22.2 NO. 183.2-M1983 "Standards for D.C. Electrical Installations on Boats" and the latest version of the TP1332 and/or ABYC 'E' as referenced by TP1332.	

2.10.1 All electrical equipment must be readily accessible for replacement and maintenance;	<b>M</b>
2.10.2 Cables for all electrical distribution must be ample in size for the particular service of marine grade tinned boat cable;	<b>M</b>
2.10.3 The electrical system design, component selection and installation must be in accordance with the latest version of the TP1332 and/or ABYC 'E' as referenced by TP1332. All electrical equipment and hardware must be installed in accordance with the manufacturer's specifications;	<b>M</b>
2.10.4 All fitted electrical equipment must be capable of operating simultaneously with any other fitted electronics equipment without causing interference to any electronic equipment or to the magnetic compass;	<b>M</b>
2.10.5 All operation switches for equipment must be labelled;	<b>M</b>

### **3. OPERATIONAL REQUIREMENTS**

<b>REQUIREMENTS</b>		<b>RANK</b>
<b>3.1 General</b>	Unless otherwise stated, performance must be for conditions of zero sea state and no wind, in salt water, normal full load and with equipment. The crew or autonomous modes must be supported or equivalent, i.e. behave in the same way (speed, stop, steering radius, response time). In autonomous mode, the AHSL must meet following minimums operational requirements:	
3.1.1	The cruising speed must be set by the operator in knots and this speed should be stable at :	
3.1.1.1	+/- 2 knots;	<b>M</b>
3.1.1.2	+/- 1 knot.	<b>NM</b>
3.1.2	The survey speed must be set by the operator in knots. The survey speed is established between 5 and 10 knots and will be stable at :	
3.1.2.1	+/- 2 knots;	<b>M</b>
3.1.2.2	+/- 1 knot.	<b>NM</b>
3.1.3	Steer and manoeuvre effectively at survey speed in Beaufort scale Force 4;	<b>M</b>
3.1.4	Maintain course made good over ground, at survey speed, in following conditions:	<b>M</b>
3.1.4.1	With cross wind between 0 to 15 knots;	<b>M</b>
3.1.4.2	With cross wind 15 knots or higher.	<b>NM</b>
3.1.5	Operate carefully from a water depth of 2.0 meters.	<b>M</b>
3.1.6	Following a pre-established line and able to stay on that line with a XTE :	
3.1.6.1	More than 2.0 meters to a maximum of 3.0 meters;	<b>M</b>
3.1.6.2	Between 1.0 to 2.0 meters;	<b>NM</b>
3.1.6.3	Under 1.0 meter.	<b>NM</b>

3.1.7	Able to come back on the planned survey line smoothly in less than 60 seconds according to deviation established at point 3.1.6.1.	<b>NM</b>
<b>3.2 COMMAND MODES</b>		
The AHSL will operates according to different modes:		
3.2.1	Remotely manual control mode;	<b>M</b>
3.2.2	Full automatic control mode (autonomous);	<b>NM</b>
3.2.3	Semi-automatic mode (assisted by the operator);	<b>NM</b>
3.2.4	The operator must have access to commands to easily switch from on mode to another in less than 3 seconds;	<b>M</b>
3.2.5	The system must include a resumption mechanism controls for the coxswain inside the launch.	<b>M</b>
<b>3.3 Environmental Conditions</b>		
3.3.1	The remote control and communication components must be weatherproof;	<b>M</b>
3.3.2	Those components must be capable of operating day or night in average ambient air temperature range between -5°C to +35°C.	<b>M</b>

#### **4. component installation**

<b>REQUIREMENTS</b>		<b>RANK</b>
<b>4.1 General arrangement</b>		
4.1.1	The Contractor must fit the new equipment, including: cameras, antennas, controllers and communication equipment (network/radio), rack, power unit, where there is space on the vessel to not impede in manned operation mode. Technical discussions with the CHS technical authority and contractor must be conducted before installation to determine the final location of components;	<b>M</b>
4.1.2	The new internal components must be small enough to fit in the scientific room space. New external components must be installed properly in order not to impede safety. Overall dimensions, weights and arrangement of main units must be provided.	<b>M</b>
4.1.3	Weight of new added components :	
4.1.3.1	Do not exceed 100 kg;	<b>M</b>
4.1.3.2	Will be between 60 and 90 kg;	<b>NM</b>
4.1.3.3	Will be less than 60 kg.	<b>NM</b>
4.1.4	Main controllers embedded including: computer(s), radio communication equipment, network components must be fitted into a rugged enclosure;	<b>M</b>
4.1.5	All new switches and breakers must be easily reachable by the operator inside the launch	<b>M</b>
<b>4.2 Outdoor equipment</b>		
4.2.1	The Contractor must supply and install all antennas which must be mounted on top of vessel with fold down articulation for road travel;	<b>M</b>
4.2.2	The Contractor supplies and installs on board the vessel a horn that meets the requirements of the <i>Collision Regulations</i> .	
4.2.2.1	The horn must be actuated remotely on the remote operator's console;	<b>M</b>
4.2.2.2	Actuated automatically when the automatic emergency system (refer to the section 6.4).	<b>NM</b>

<b>4.3 FINITION</b>	
<p>4.3.1 After installation, the launch must be cleaned and inspected (inside and out) to put it back at the same state at the beginning of the installation. The contractor must repair all the damage that the installation may have caused to the boat or its equipment to the satisfaction of the contracting authority;</p>	<b>M</b>

## 5. COMMUNICATIONS

REQUIREMENTS		RANK
<b>5.1 Communication interface</b>		
5.1.1	The communication interface must provide access to all AHSL functions and operation of hydrographic survey equipment from the remote control station, including:	
5.1.1.1	The engines control (rpm, steering, gearbox) and monitoring information related thereto (fluid levels, pressure, temperature);	<b>M</b>
5.1.1.2	The monitoring of the electrical components (battery voltage, battery charging);	<b>M</b>
5.1.1.3	The video streaming cameras located outside of the AHSL;	<b>M</b>
5.1.1.4	The audio-video streaming cameras located inside of the AHSL	<b>NM</b>
5.1.1.5	Alarms information including: flooding, engine(s) power off, component failure, survey equipment's dysfunction, collisions avoid, grounding avoid, fire;	<b>M</b>
5.1.1.6	The operator must have the complete control of the acquisition pc remotely and in real-time, including the visualisation of the acquisition screen and the interaction with the data acquisition systems.	<b>M</b>
<b>5.2 Range</b>		
5.2.1	Low bandwidth – range 45 km.	<b>NM</b>
5.2.2	Long range high bandwidth 1.2 to 1.5 GHz – range 20 km.	<b>M</b>
5.2.3	Short range high bandwidth 2.4 GHz – range 1 km.	<b>NM</b>

## 6. autonomous systems

The Contractor must provide the following systems:

REQUIREMENTS		RANK
<b>6.1 Planification and display module</b>		
6.1.1	Display functions:	
6.1.1.1	Precise positioning of the AHSL on geographic display;	<b>M</b>
6.1.1.2	Quick View of navigation data (position and heading);	<b>M</b>
6.1.1.3	To be able to accept many file formats:	
6.1.1.3.1	BSB, S-57, DXF	<b>M</b>
6.1.1.3.2	GeoTIFF, SHP	<b>NM</b>
6.1.1.4	Inertial navigation system;	<b>NM</b>
6.1.1.5	AIS targets;	<b>NM</b>
6.1.1.6	Radar overlay;	<b>NM</b>
6.1.1.7	Configurable cameras displays and controls;	<b>NM</b>
6.1.1.8	Full data feedback windows;	<b>NM</b>
6.1.1.9	Bridge gauges information including: voltmeter, batteries charge indicators, charging batteries indicators, fuel level	<b>M</b>
6.1.2	Operations functions	



6.1.2.1	Mission planning (line pattern);	<b>M</b>
6.1.2.2	Will perform an autonomous survey on a predetermined area along a line pattern	<b>NM</b>
6.1.2.3	Will be able to recording all operations	<b>NM</b>
6.1.2.4	Will have a last line point callback function to continue the survey;	<b>NM</b>
6.1.2.5	Will have a different points programming function at the end of the operation, including : Return to starting point, go to predetermined point, stop at the end of the line;	<b>NM</b>
6.1.2.6	Will allow real-time adjustments;	<b>NM</b>
<b>6.2 Communication module</b>		
6.2.1	Wireless high bandwidth communication as described in item 5.2 :	<b>M</b>
6.2.1.1	Real-time information transmission to the operator for quality control;	<b>NM</b>
6.2.1.2	Data acquisition real-time monitoring, including: survey data, speed sound data, INS-POVIEW, recording data visualisation, CUBE bathymetric surface visualisation, CARIS Onboard;	<b>M</b>
6.2.1.3	Transmission of cameras information;	<b>NM</b>
6.2.1.4	Ability to interact with the PC acquisition onboard in real-time (wireless).	<b>M</b>
6.2.2	Wireless low bandwidth communication as described in item 5.2:	
6.2.2.1	Engines control and monitoring;	<b>NM</b>
6.2.2.2	Alarms information including engines, flooding, batteries minimum charge, communication lost, PC and network problem.	<b>NM</b>
<b>6.3 Analysis module</b>		
6.3.1	Analysis system for the collision avoidance system ;	<b>NM</b>
6.3.2	Minimum depth alarm for the grounding avoidance system;	<b>NM</b>

6.3.3	Quality control check for the bad acquisition data.	<b>NM</b>
<b>6.4 Security and emergency</b>		
6.4.1	Collision avoidance system alarm and emergency preprogrammed command, including: stop, stay in place, go to...	<b>NM</b>
6.4.2	Grounding avoidance system alarm and emergency preprogrammed command, including: stop, reverse and stop.	<b>NM</b>
6.4.3	Emergency stop button with the following preprogrammed automatic functions:	
6.4.3.1	Stop all (engines neutral);	<b>M</b>
6.4.3.2	Reverse;	<b>NM</b>
6.4.3.3	Return in remote manual mode;	<b>NM</b>
6.4.3.4	Holding position.	<b>NM</b>
6.4.4	Defining working area with emergency procedures in case the AHSL tries to exit.	<b>NM</b>
6.4.5	Defining not allowed area.	<b>NM</b>

## **7. trials and acceptance tests**

<b>REQUIREMENT</b>		<b>RANK</b>
<b>7.1 TRIALS</b>		
Prior to the final acceptance tests, the Contractor must conduct their own inspections, tests and trials to demonstrate successful completion of the Work in accordance with this TSOR and the proper operation of the AHSL and all associated equipment. All discrepancies and anomalies identified through the inspection, test and trials processes must be corrected prior to the final acceptance tests.		<b>M</b>
<b>7.2 ACCEPTANCE TESTS</b>		
7.2.1 The Contractor must submit a Test & Trials Plan, including a description of all of the acceptance trials to be performed. The AHSL must operate in the Normal Loaded Condition. The AHSL trials must be performed according to various modes described in this TSOR as well as crew mode.		<b>M</b>
7.2.2 The Contractor must notify the Contracting Authority and the CHS Technical Authority at least one month before the start of final acceptance tests. These tests must be performed attended by the Technical Authority. During these tests, the Contractor must provide information and sufficient evidence for the Technical Authority assimilates and understands the operation and characteristics of the ASHL.		<b>M</b>
7.2.3 The final sea trials must be conducted close to Fisheries and Oceans facilities in Mont-joli or Rimouski (Quebec State). In these tests, the Contractor has to demonstrate the converted launch and its equipment is conforming to the requirements as stated in the contract. All expenses incident to the trials must be borne by the Contractor. A technical staff provided by the Contractor must operate the vessel during sea trials in presence of Fisheries and Oceans staff;		<b>M</b>
7.2.4 All Sea Trial instrumentation and equipment must be supplied and operated by the Contractor. Trial instrumentation, where applicable, must not replace AHSL instruments;		<b>M</b>
7.2.5 The Contractor must provide a Tests & Trials Sheet and include this sheet in the technical publications;		<b>M</b>
7.2.6 After final tests, the boat must be cleaned and inspected (inside and out) to put it back in the same condition as the beginning of these tests. The contractor must repair any damage to the launch or ancillary equipment that sea trials have caused to the satisfaction of the Contracting Authority.		<b>M</b>

<p>7.2.7</p>	<p>Final Inspection must not be performed until all tests have been satisfactorily completed with data available for review. The Technical Authority or a representative of the Technical Authority will conduct the final delivery inspection.</p>	<p><b>M</b></p>
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## 8. Documentation

REQUIREMENT		RANK
<b>8.1 General</b>	All documentation to be included in the Technical Publications must be provided in English or in French.	<b>M</b>
<b>8.2 Technical Publications</b>		
8.2.1	The Contractor must provide, upon delivery of the system, complete set of technical publications, including :	
8.2.1.1	Comprehensive owner/operator manual (physical and functional description);	<b>M</b>
8.2.1.2	New equipment AC and DC electrical system schematics;	<b>M</b>
8.2.1.3	Sea trials results;	<b>M</b>
8.2.1.4	Other relevant documents.	<b>M</b>
8.2.2	The Contractor is to provide to the CHS Technical Authority one (1) hard copy and one (1) electronic copy of the technical publications;	<b>M</b>
8.2.3	Documentation must include a description of the arrangement and function of all new systems, fittings and accessories, with illustrations as appropriate, including :	
8.2.3.1	Operating procedures and criteria;	<b>M</b>
8.2.3.2	Installation and connection drawings, assembly and disassembly instructions with comprehensive illustrations showing each step;	<b>M</b>
8.2.3.3	Recommended planned maintenance;	<b>M</b>
8.2.3.4	Complete troubleshooting procedures;	<b>M</b>

## 9. WARRANTY, SERVICE PROVISIONS AND FORMATION

REQUIREMENT	RANK
<b>9.1 Warranty</b> As specified in the contract, the Contractor must cover hardware and software support and maintenance for twelve months beginning after the Acceptance tests and delivery of the system to the CHS.	<b>M</b>
<b>9.2 Components and Equipment Support</b> The Contractor must provide troubleshooting phone assistance within 48 hours. Contractor must be able to proceed (deliver parts, formulate solutions, travel) within a timeframe agreed with CHS authority but this period shall not exceed 30 days.	<b>M</b>
<b>9.3 Spare Parts</b> The Contractor will provide a list of spare parts, with a complete description and price.	<b>NM</b>
<b>9.4 Maintenance plan</b>	
9.4.1 For the following 4 years after the end of the warranty, the Contractor will provide software annual maintenance plan including all licenses, updates and improvements of all software used for the AHSL control systems. The cost will be included in the bid price.	<b>NM</b>
9.4.2 The Contractor will provide a service visit after the first season of operation of the AHSL. Where appropriate, the visit will be done at the CHS regional office in Mont-Joli and the cost will be included in the bid price.	<b>NM</b>
<b>9.5 Training</b> The Contractor must provide comprehensive training on the operation, maintenance and upgrading of AHSL. Training (3-6 persons identified by the Technical Authority) will be offered at the customer's offices and be of sufficient duration to cover all aspects of the system. The Contractor shall also make a general presentation (maximum 2 hours) on the AHSL and its features to an audience of up to a hundred people.	<b>M</b>

## **APPENDIX – 1**

### **TECHNICAL DOCUMENTS LIST**

Garrot fiche technique.pdf :	Information on the Garrot equipment
08749-01_GA_GARROT(1).pdf :	general arrangement
08749-02_ConstructionSection.pdf :	Hull section
G027-AV Model (1).pdf :	Front view
G027-EL Model (1) :	starboard view
G027-MA Model (1).pdf :	Inside arrangement view
G027-WT Model (1).pdf :	Roof view
Garrot - QM-G027_1.pdf :	Antennas arrangement
Garrot - QM-G027_2.pdf :	Navigation equipment
Visio-Diagramme_Garrot_legal_2040C_2016.pdf:	Hydrographic equipment diagram

### **PHOTOS REPERTORY:**

\\Photos\\Photos_Eng\\Outside :	Outside Garrot photos
\\Photos\\Photos_Eng\\Inside :	Inside Garrot photos
\\Photos\\Photos_Eng\\OutsideBoatShooting :	Other photo session taken outdoors