



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Bid Receiving Public Works and Government
Services Canada/Réception des soumissions
Travaux publics et Services gouvernementaux
Canada

1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
Halifax
Nova Scotia
B3J 1T3
Bid Fax: (902) 496-5016

INVITATION TO TENDER

APPEL D'OFFRES

**Tender 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.

**Soumission 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 et sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

Atlantic Region Acquisitions/Région de l'Atlantique
Acquisitions
1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
Halifax
Nova Scot
B3J 1T3

Title - Sujet Rigid Hull Inflatable Boat/Trailer	
Solicitation No. - N° de l'invitation T2012-180005/A	Date 2018-09-10
Client Reference No. - N° de référence du client T2012-180005	GETS Ref. No. - N° de réf. de SEAG PW-\$HAL-311-10506
File No. - N° de dossier HAL-8-41019 (311)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-10-23	
Time Zone Fuseau horaire Atlantic Daylight Saving Time ADT	
F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input checked="" type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Dunne, Dave	Buyer Id - Id de l'acheteur hal311
Telephone No. - N° de téléphone (902) 401-4294 ()	FAX No. - N° de FAX (902) 496-5016
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF TRANSPORT HERITAGE CRT 95 FOUNDRY ST P.O.BOX 42 MONCTON New Brunswick E1C8K6 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

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

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Client Ref. No. - N° de réf. du client
T2012-180005

Amd. No. - N° de la modif.
File No. - N° du dossier
HAL-8-41019

Buyer ID - Id de l'acheteur
ha1311
CCC No./N° CCC - FMS No./N° VME

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PART 1 - GENERAL INFORMATION

1.1 Introduction

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

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides Bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications and Additional Information: includes the certifications and additional information 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 Statement of Work, the Basis of Payment, the Insurance Requirements, the Warranty Defect Claims Procedures and Forms, the Bidder Questions and Answers, the Financial Bid Presentation Sheet, the Electronic Payment Instruments, the Integrity Provisions – Required Documentation, and any other annexes.

1.2 Summary

Transport Canada Navigation Protection Program (TC-NPP) has a requirement for one (1) Rigid Hull Inflatable Boat and Trailer. The craft is to be utilized by the TC-NPP in support of its mandate to approve works in the marine environment, conduct on-site follow up inspections and investigate complaints of hazards while effecting removals.

The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), and the Canadian Free Trade Agreement (CFTA).

This bid solicitation allows bidders to use the epost Connect service provided by Canada Post Corporation to transmit their bid electronically. Bidders must refer to Part 2 entitled Bidder Instructions, and Part 3 entitled Bid Preparation Instructions, of the bid solicitation, for further information.

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.

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](#) (2018-05-22), Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

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

Delete: 60 days

Insert: 90 days

2.1.1 SACC Manual Clauses

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

SACC Manual Clause B3000T (2006-06-16), Equivalent Products

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 in the bid solicitation.

Email address for ePost Connect service:

TPSGC.RAReceptionSoumissionsNE-ARBidReceivingNS.PWGSC@tpsgc-pwgsc.gc.ca

Bids/Offer will be not be accepted if emailed directly to this email address. This email is to initiate an ePost Connect conversation, as detailed in the Standard Instructions.

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

2.3 Enquiries - Bid Solicitation

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

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

2.4 Applicable Laws

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

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

2.5 Improvement of Requirement During Solicitation Period

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least 10 days before the bid closing date. Canada will have the right to accept or reject any or all suggestions

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

- If the Bidder chooses to submit its bid electronically, Canada requests that the Bidder submits its bid in accordance with section 08 of the 2003 standard instructions. Bidders must provide their bid in a single transmission. The epost Connect service has the capacity to receive multiple documents, up to 1GB per individual attachment.

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

Section I: Technical Bid
Section II: Management Bid
Section III: Financial Bid
Section IV: Certifications

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

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

- If the Bidder is simultaneously providing copies of its bid using multiple acceptable delivery methods, and if there is a discrepancy between the wording of any of these copies and the electronic copy provided through epost Connect service, the wording of the electronic copy provided through epost Connect service will have priority over the wording of the other copies.

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

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

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

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573) (<https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573>). To assist Canada in reaching its objectives, bidders should:

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

3.2 Section I: Technical Bid

The entire contents of the Statement of Work at Annex "A", as revised in Annex "E", is mandatory. In their technical bid, Bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability in a thorough, concise and clear manner for carrying out the work.

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

In addition to providing the documentation and information mentioned above, Bidders must provide the following documentation in articles 3.2.1, 3.2.2, 3.2.3 and 3.2.4.

3.2.1 Project Schedule

- 1. As part of its technical bid, the Bidder must propose its preliminary project schedule, in MS Project format or equivalent. The project schedule must include the Bidder's work breakdown structure, the scheduling of main activities and milestone events, and any potential problem areas involved in completing the Work.
- 2. The Bidder's schedule must also provide a target date for each of the following significant events as applicable:
 - a. hull materials delivered to Contractor and sustained construction commenced;
 - b. hull and deck completed, but not closed in to allow for full inspection of the structure and welding. The Contractor will be required to supply a hard copy of the material certs and construction drawings to the Technical/Inspection Authority one (1) week prior to inspection by the Technical/Inspection Authority;
 - c. outfitting/electrical 75% complete but all equipment and components delivered to the Contractor and available for full inspection. The Contractor will be required to supply a hard copy of the list of equipment and electrical supplies to the Technical/Inspection Authority one (1) week prior to inspection by the Technical/Inspection Authority;

- d. technical manuals delivered to Canada for approval (no less than 14 days prior to the planned delivery date);
- e. Contractor's tests and trial and final sea trials required by the TSOR;
- f. boat and trailer delivered to Canada for approval;
- g. the start and the end of the twelve (12) month warranty period.

Note: Technical Manuals will not be returned once approved.

3.2.2 Preliminary Drawings

The following documents must be included with the Bid:

- a) draft stability calculation;
- b) calculated lightship weight;
- c) general arrangement;
- d) structural drawings showing deck plan, a centerline profile and frame station construction details;
- e) detailed lines plan; and
- f) a drawing of the fuel supply arrangement.

3.2.3 List of Proposed Subcontractors

If the bid includes the use of subcontractors, the Bidder agrees, upon 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 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

3.2.4 Tests and Trials Plan

The Contractor shall submit a Test & Trials Plan, with bid submission including a description of all of the acceptance trials to be performed. As a minimum, the following test and trials shall be conducted:

- a) Speed Trials
- b) Endurance Trials
- c) Astern Propulsion
- d) Steering Gear
- e) Lifting Gear Load Test

3.2.5 Availability of Parts

The Contractor's parts depots shall be capable of efficiently supplying spare parts for all components of the vessel within 24 hours. The Bidder must indicate the location of the supply depot and method of shipping to meet the 24-hour lead time for spare parts.

3.3 Section II: Management Bid

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

In addition to providing the documentation and information mentioned above, Bidders must provide the following documentation in articles 3.3.1, 3.3.2, 3.3.3 and 3.3.4.

3.3.1 Vessel Construction Experience

The bid must provide objective evidence that the bidder has proven capability in the construction of vessels of the same size, type and complexity as the vessel(s) that make up the requirement of this bid solicitation, by providing detailed information of a minimum of 2 boats built within the last 8 years. Prototype hulls will not be considered as fulfilling this requirement. The bid must include the following details for each vessel submitted as evidence of construction capability:

- a) General Arrangement drawings;
- b) Photographs;
- c) References;
- d) Builder's plates (if applicable); and
- e) Hull identification numbers confirming multiple builds.

3.3.2 Contractor Quality Management System

The bid must provide objective evidence that the Bidder has a Quality Assurance Program, which must be in place during the performance of the Work, and which addresses the quality control elements below. The objective evidence may be in the form of a copy of the Bidder's Quality Assurance Manual which addresses these elements. Proof of registration with a recognized quality assurance organization whose system addresses the minimum requirements below, may be submitted for consideration.

The quality control elements must include, as a minimum:

- a) Management Representative
- b) Quality Assurance Manual
- c) Quality Assurance Program
- d) Descriptions Quality Reporting Organization Documentation
- e) Measuring and Testing
- f) Equipment Procurement
- g) Inspection and Test Plan
- h) Incoming Inspection
- i) In-Process Inspection
- j) Final Inspection Special Processes Quality Records
- k) Non-Conformance
- l) Corrective Action

3.3.3 Marine Drafting and Engineering Capability

The bid must provide objective evidence in the form of a statement, signed by an authorized representative of the Bidder that the bidder has either:

a) In-house capabilities for marine drafting and engineering; or

b) A written commitment from a supplier that will be providing marine drafting and engineering services to the Bidder for the duration of the Contract. The supplier must have marine drafting and engineering experience and capabilities on vessel construction projects similar in size, type and complexity to the subject bid solicitation.

3.4 Section III: Financial Bid

Bidders must submit their financial bid in accordance with the Financial Bid Presentation Sheet in Annex "F".

3.4.1 Electronic Payment of Invoices – Bid

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

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

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

3.4.2 Exchange Rate Fluctuation

[C3011T](#) (2013-11-16), Exchange Rate Fluctuation

3.5 Section IV: Certifications

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

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

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

4.1.1 Technical Evaluation

4.1.1.1. Mandatory Technical Criteria

In order to be compliant, a Bidder's proposal must, to the satisfaction of Canada, meet all requirements of the Annex A - TSOR and provide all information as requested in PART 3 - BID PREPARATION INSTRUCTIONS, 3.2 Section I, Technical Bid.

4.1.2 Management Evaluation

4.1.2.1 Mandatory Management Criteria

In order to be compliant, a Bidder's proposal must, to the satisfaction of Canada, meet all requirements and provide all information as requested in PART 3 - BID PREPARATION INSTRUCTIONS, 3.3 Section II –Management Bid.

4.1.3 Financial Evaluation

4.1.3.1 Mandatory Financial Criteria

In order to be compliant, a Bidder's proposal must, to the satisfaction of Canada, meet all requirements and provide all information as requested in PART 3 - BID PREPARATION INSTRUCTIONS, 3.4 Section III –Financial Bid.

4.2 Basis of Selection

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

A mandatory requirement is described using the words "shall", "must", "will", "is required" or "is mandatory".

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

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

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

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

5.1 Certifications Required with the Bid

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

5.1.1 Integrity Provisions - Declaration of Convicted Offences

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

5.2 Certifications Precedent to Contract Award and Additional Information

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

5.2.1 Integrity Provisions – Required Documentation

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

5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

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

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

5.2.3 Additional Certifications Precedent to Contract Award

5.2.3.1 Welding Certification

1. Welding must be performed by a welder certified by the Canadian Welding Bureau (CWB) for the following Canadian Standards Association (CSA) standards:
 - a. CSA W47.1 (current version), Certification of Companies for Fusion Welding of Steel (Minimum Division Level 2.1).
 - b. CSA W47.2 (current version), Certification of Companies for Fusion Welding of Aluminum (Minimum Division Level 2.0).
2. Before contract award and within 2 calendar days of the written request by the Contracting Authority, the successful Bidder must submit evidence demonstrating its and its subcontractor's certification by CWB in accordance with the CSA welding standards.

5.2.3.2 Workers Compensation Certification- Letter of Good Standing

The Bidder must have an account in good standing with the applicable provincial or territorial Workers' Compensation Board.

The Bidder must provide, within 2 days following a request from the Contracting Authority, a certificate or letter from the applicable Workers' Compensation Board confirming the Bidder's good standing account. Failure to comply with the request may result in the bid being declared non-responsive.

5.2.3.3 Valid Labour Agreement

Where the Bidder has a labour agreement, or other suitable instrument, in place with its unionized labour, it must be valid for the proposed period of any resulting contract. Documentary evidence of the agreement or suitable instrument must be provided within 2 days following a request from the Contracting Authority.

PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS

6.1 Security Requirements

There is no security requirement applicable to this contract.

6.2 Financial Capability

SACC *Manual* clause [A9033T](#) (2012-07-16), Financial Capability

6.3 Insurance Requirements

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".

If the information is not provided in the bid, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

PART 7 - RESULTING CONTRACT CLAUSES

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

7.1 Statement of Work

The Work to be performed is detailed in Annex "A" Statement of Work.

7.2 Standard Clauses and Conditions

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

7.2.1 General Conditions

[2030](#) (2018-06-21), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

7.2.2 Supplemental General Conditions

1028 (2010-08-16), Ship Construction, Firm Price, apply to and form part of the Contract.

7.2.2.1 Conduct of Work

The Supplemental General Conditions 1028, Article 02 (2010-08-16), Conduct of Work, delete Paragraph 1, entitled "Canadian Labour", in its entirety.

7.2.2.2 Warranty

The Supplemental General Conditions 1028, Article 12 (2010-08-16), Warranty, Paragraph 3 is deleted and replaced with the following:

"The warranty periods for the vessel, from the date of its delivery to and acceptance by Canada, are:
a) Twelve (12) months for the boat propelling machinery and auxiliaries, fittings and equipment of all kinds (excluding Government Supplied Material).
b) Twenty four (24) months for the vessel hull and welding."

7.3 Security Requirements

There is no security requirement applicable to the Contract.

7.4 Term of Contract

7.4.1 Delivery Date

All the deliverables must be received on or before March 31, 2019.

7.4.2 Shipping Instructions

Incoterms 2000 "DDP Delivered Duty Paid" Halifax, NS.

7.4.3 Delivery Point

Delivery of the requirement will be made to:

Transport Canada
95 Foundry Street
Moncton, NB E1C 8K6

7.5 Authorities

7.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Dave Dunne
Title: Supply Specialist
Public Works and Government Services Canada
Acquisitions Branch, Marine Procurement
Address: 1713 Bedford Row, Halifax, NS, B3J 1T3

Telephone: (902) 401-4294
Facsimile: (902) 496-5016
E-mail address: Dave.Dunne@tpsgc-pwgsc.gc.ca

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

7.5.2 Technical Authority

The Technical Authority for the Contract is:

<< Named upon contract award >>

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

7.5.3 Contractor's Representative

<< Contractor to complete >>

Name: _____
Title: _____
Organization: _____
Address: _____
Telephone: ____ - ____ - ____
Facsimile: ____ - ____ - ____
E-mail: _____.

7.6 Payment

7.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price as specified in Annex "B". Customs duties are included and Applicable Taxes are extra.

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

7.6.2 Payment for Fuels, Oils and Lubricants

The Contractor is responsible for the supply and cost of all fuel, lubricating oil, hydraulic oil and other lubricants sufficient for fully charging all systems as required for operating the machinery and other equipment and for performing all tests and trials. After successful completion of all trials and upon Acceptance of the Rigid Hull Inflatable Boats by Canada, all oils, lubricants and fuels shall be returned to full condition levels at the Contractor's cost.

7.6.3 Milestone Payments - Subject to holdback

1. Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract and the payment provisions of the Contract, up to 90 percent of the amount claimed and approved by Canada if:
 - a. an accurate and complete claim for payment using form [PWGSC-TPSGC 1111](#), Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
 - b. the total amount for all milestone payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Contract;

- c. all the certificates appearing on form [PWGSC-TPSGC 1111](#) have been signed by the respective authorized representatives;
 - d. all work associated with the milestone and as applicable any deliverable required have been completed and accepted by Canada.
2. The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of the item if the Work has been accepted by Canada and a final claim for the payment is submitted.

7.6.4 Schedule of Milestones

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

Milestone No	Description and Deliverable(s)	Firm Payment Amount
1	Hull materials delivered to the Contractor and sustained construction commenced	25% of the FIRM PRICE (determined at contract award)
2	Technical documentation and manuals delivered and accepted by Canada	5% of the FIRM PRICE (determined at contract award)
3	Vessel delivered and accepted by Canada	65% of the FIRM PRICE (determined at contract award)
4	End of the 12 month warranty period	5% of the FIRM PRICE (determined at contract award)

7.6.5 Outstanding Work

In addition to any amount held under the Warranty Holdback Clause, a holdback of twice the estimated value of outstanding work will be held until that work is completed.

7.6.6 Invoicing Instructions

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

Each claim must show:

- a. all information required on form [PWGSC-TPSGC 1111](#);
 - b. all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
 - c. the description and value of the milestone claimed as detailed in the Contract;
 - d. copies of material invoices as requested by the Contracting Authority;
 - e. quality assurance documentation as requested by the Contracting Authority.
2. Applicable Taxes, must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no Applicable Taxes payable as it was claimed and payable under the previous claims for progress payments.
3. The Contractor must prepare and certify one original and two (2) copies of the claim on form [PWGSC-TPSGC 1111](#), and forward it to the Technical Authority identified under the section entitled

"Authorities" of the Contract for appropriate certification after inspection and acceptance of the Work takes place.

4. The Technical Authority will then forward the original and two (2) copies of the claim to the Contracting Authority for certification and onward submission to the Payment Office for the remaining certification and payment action.
5. The Contractor must not submit claims until all work identified in the claim is completed.

7.6.7 Electronic Payment of Invoices – Contract

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

- a. Visa Acquisition Card;
- b. MasterCard Acquisition Card;
- c. Direct Deposit (Domestic and International);
- d. Electronic Data Interchange (EDI).

7.6.8 SACC Manual Clauses

SACC Manual Clause H4500C (2010-01-11), Lien – Section 427 of the Bank Act

7.7 Certifications and Additional Information

7.7.1 Compliance

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

7.7.2 Welding Certification

2. The Contractor must ensure that welding is performed by a welder certified by the Canadian Welding Bureau(CWB) for the following Canadian Standards Association(CSA) standard(s):
 - a. CSA W47.1 (current version), Certification of Companies for Fusion Welding of Steel (Minimum Division Level 2.1).
 - b. CSA W47.2 (current version), Certification of Companies for Fusion Welding of Aluminum (Minimum Division Level 2.0).
3. In addition, welding must be done in accordance with the requirements of the applicable drawings and specifications.
4. Before the commencement of any fabrication work, and upon request from the Technical Authority, the Contractor must provide approved welding procedures and/or a list of welding personnel they intend to use in the performance 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 certification to CSA welding standards.

7.7.3 Project Schedule

1. The Contractor must provide a detailed project schedule in Gantt chart format to the Contracting Authority and the Technical Authority 5 calendar days after award of Contract. This schedule must highlight the specific dates for the events listed below.
2. The Contractor's schedule must include target dates for each of the following significant events:
 - a) Hull materials delivered to Contractor and sustained construction commenced;
 - b) Hull and deck completed, but not closed in to allow for full inspection of the structure and welding. The Contractor must supply a hard copy of the material certificates and construction drawings to the Technical/Inspection Authority one week prior to inspection by the Technical/Inspection Authority;
 - c) Outfitting/electrical 75% complete but all equipment and components delivered to the Contractor and available for full inspection. The Contractor must supply a hard copy of the list of equipment and electrical supplies to the Technical/Inspection Authority one week prior to inspection by the Technical/Inspection Authority;
 - d) Technical manuals delivered to Canada for approval (no less than 14 days prior to the planned delivery date);
 - e) Contractor's tests and trial and final sea trials required by the TSOR;
 - f) Boat delivered to Canada for approval.

Note: Technical Manuals will not be returned once approved.

An updated schedule must be provided to the Technical Authority and Contracting Authority 2 days before each progress meeting.

7.8 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's 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.

7.9 Progress Report

The Contractor must submit monthly reports on the progress of the Work in an electronic format to the Technical Authority and to the Contracting Authority.

The report must be in narrative format, brief, yet sufficiently detailed to enable the Technical Authority to evaluate the progress of the Work, containing at a minimum:

- a) a description of the progress of each task and of the Work as a whole during the period of the report. Sufficient sketches, diagrams, photographs, etc., must be included, if necessary, to describe the progress accomplished.
- b) an explanation of any variation from the schedule.

7.10 Procedures for Design Change/Deviations

The Contractor must follow these procedures for any proposed design change/deviation to contract specifications.

The Contractor must complete Part 1 of form [PWGSC-TPSGC 9038 \(PDF 241 KB\)](#), Design Change/Deviation, and forward 1 copy to the Technical Authority and one (1) copy to the Contracting Authority.

7.11 Outstanding Work and Acceptance

The Inspection Authority, in conjunction with the Contractor, will prepare a list of outstanding work items at the end of the 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 Inspection Authority on the work completion date to review and sign off the form PWGSC-TPSGC 1105, Vessel Acceptance. In addition to any amount held under the Warranty Holdback Clause, a holdback of twice the estimated value of outstanding work will be held until that work is completed.

The Contractor must complete the above form in three (3) copies, which will be distributed by the Inspection Authority as follows:

- a) original to the Contracting Authority;
- b) one copy to the Technical Authority;
- c) one copy to the Contractor.

7.12 Applicable Laws

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

7.13 Priority of Documents

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

- (a) the Articles of Agreement;
- (b) the supplemental general conditions 1028 (2010-08-16), Ship Construction, Firm Price;
- (c) the general conditions 2030 (2018-06-21), General Conditions - Higher Complexity – Goods;
- (d) Annex A, Statement of Work;
- (e) Annex E, Bidder Questions and Canada Responses;
- (f) Annex B, Basis of Payment;
- (g) Annex F, Financial Bid Presentation Sheet;
- (g) Annex C, Insurance Requirements;
- (h) the Contractor's bid dated _____, as clarified on _____.

7.14 SACC Manual Clauses

SACC Manual clause A0285C (2007-05-25), Workers Compensation
SACC Manual clause A1009C (2008-05-12), Work Site Access
SACC Manual clause A9006C (2012-07-16), Defence Contract
SACC Manual clause B1501C (2018-06-21), Electrical Equipment
SACC Manual clause D0018C (2007-11-30), Delivery and Unloading
SACC Manual clause D2000C (2007-11-30), Marking
SACC Manual clause D2001C (2007-11-30), Labelling

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SACC Manual clause D9002C (2007-11-30), Incomplete Assemblies

7.15 Condition of Material

The Contractor must provide material that is new production of current manufacture supplied by the principal manufacturer or its accredited agent. The material must conform to the latest issue of the applicable drawing, specification and part number, as applicable, that was in effect on the bid closing date.

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ANNEX "A"

STATEMENT OF WORK

The entire Statement of Work is a separate electronic document entitled:

Statement of Requirement
General Supporting Information for
Transport Canada – Navigation Protection Program Atlantic Region
(TC-NPP) Glass Reinforced Plastic Rigid Hull Inflatable Boat

Revision 2017/10/02

ANNEX "B"

BASIS OF PAYMENT

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. Refer to Annex F "Financial Bid Presentation Sheet".

1. Contract Price

a)	Known Work For work as stated in Part 1, Specified in Annex "A", as revised in Annex "E" for a FIRM PRICE of:	\$ _____
b)	HST (15%) of Line a) only	\$ _____
c)	Total Firm Price HST Included: For a FIRM PRICE of :	\$ _____

2. Unscheduled Work

2.1 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.

2.2 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.

2.3 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 10 percent, plus Goods and Services Tax or Harmonized Sales Tax, if applicable, calculated at 15 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. The material mark-up rate will also apply to subcontracted costs.

3 Overtime

No overtime work will 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.

3.1 Overtime Labour Rate

Firm overtime labour rate \$ _____

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This rate will remain firm for the duration of the Contract including all amendments and are subject to audit if deemed necessary by Canada.

ANNEX "C"

INSURANCE REQUIREMENTS

Commercial General Liability Insurance

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 Contractor will provide the Contracting Authority thirty (30) days prior written notice of policy cancellation or any changes to the insurance policy.
 - 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. Non-Owned Automobile Liability - Coverage for suits against the Contractor resulting from the use of hired or non-owned vehicles.
 - n. Amendment to the Watercraft Exclusion to extend to incidental repair operations on board watercraft.
 - o. Sudden and Accidental Pollution Liability (minimum 120 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.

- p. Litigation Rights: Pursuant to subsection 5(d) of the [Department of Justice Act](#), S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

For the province of Quebec, send to:

*Director Business Law Directorate,
Quebec Regional Office (Ottawa),
Department of Justice,
284 Wellington Street, Room SAT-6042,
Ottawa, Ontario, K1A 0H8*

For other provinces and territories, send to:

*Senior General Counsel,
Civil Litigation Section,
Department of Justice
234 Wellington Street, East Tower
Ottawa, Ontario K1A 0H8*

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.

Marine liability insurance

1. The Contractor must obtain protection and indemnity insurance that must include excess collision liability and pollution liability. The insurance must be placed with a member of the International Group of Protection and Indemnity Associations or with a fixed market in an amount of not less than the limits determined by the [Marine Liability Act](#), S.C. 2001, c. 6. Coverage must include crew liability, if it is not covered by Worker's Compensation as detailed in paragraph (2.) below.
2. The Contractor must obtain worker's compensation insurance covering all employees engaged in the Work in accordance with the statutory requirements of the territory or province or state of nationality, domicile, employment, having jurisdiction over such employees. If the Contractor is subject to an additional contravention, as a result of an accident causing injury or death to an employee of the Contractor or subcontractor, or due to unsafe working conditions, then such levy or assessment must be paid by the Contractor at its sole cost.
3. The protection and indemnity insurance 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 as

additional insured should read as follows: Canada, represented by Public Works and Government Services Canada.

- b. Waiver of subrogation rights: Contractor's Insurer to waive all rights of subrogation against Canada as represented by Transport Canada and Public Works and Government Services Canada for any and all loss of or damage to the watercraft however caused.
- c. Notice of cancellation: The Contractor will provide the Contracting Authority thirty (30) days prior written notice of policy cancellation or any changes to the insurance policy.
- d. Cross liability and 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.
- e. Litigation rights: Pursuant to subsection 5(d) of the [Department of Justice Act](#), R.S.C. 1985, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

For the province of Quebec, send to:

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A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.

ANNEX "D"

WARRANTY DEFECT CLAIM PROCEDURES AND FORMS

Warranty Procedures

1. Scope

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

2. Definition

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."

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

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 attached 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 man-hours 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.

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 man-hours and material, will be discussed between the Contracting/Inspection Authorities and the Technical Authority to determine the best course of action.

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 warranty period. This alongside period is to provide time for warranty repair and check by the contractor.

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APPENDIX 1 to ANNEX D



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	Effect on Vessel Operations Effet sur des opérations de navire 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 _____

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

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

Contractor's Name and Signature – Nom et signature de l'entrepreneur
reprise

Date of Corrective Action - Date de modalité de
reprise

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

Signature – Signature

Date

5. Additional Information – Renseignements supplémentaires



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ANNEX "E"

BIDDER QUESTIONS AND ANSWERS

Updated during the bid solicitation period

ANNEX “F”

FINANCIAL BID PRESENTATION SHEET

1. Evaluation of Price

a)	Known Work – RHIB and Trailer For the work and material as stated in Part 1, specified in Annex “A”, as revised in Annex “E” for a FIRM PRICE of:	\$ _____
b)	Unscheduled Work – Regular Labour Rate Estimated labour hours at a firm Charge-out Labour Rate, including overhead and profit: 50 person hours X \$_____ per hour for a PRICE of:	\$ _____
c)	Unscheduled Work – Overtime Labour Rate Estimated overtime labour hours at a firm Charge-out Labour Rate, including overhead and profit: Overtime rate: 10 person hours X \$_____ per hour for a PRICE of:	\$ _____
d)	EVALUATION PRICE HST Excluded, [a + b + c]: <div style="text-align: right;">For an EVALUATION PRICE of :</div>	\$ _____

2. Unscheduled Work

2.1 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.

2.2 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.

2.3 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 10 percent, plus Goods and Services Tax or Harmonized Sales Tax, if applicable, calculated at 15 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. The material mark-up rate will also apply to subcontracted costs.

3 Overtime

No overtime work will 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

Solicitation No. - N° de l'invitation
T2012-180005/A
Client Ref. No. - N° de réf. du client
T2012-180005

Amd. No. - N° de la modif.
File No. - N° du dossier
HAL-8-41019

Buyer ID - Id de l'acheteur
ha1311
CCC No./N° CCC - FMS No./N° VME

authorization and a report containing such details as Canada may require with respect to the overtime work performed.

3.1 Overtime Labour Rate

Firm overtime labour rate \$ _____

This rate will remain firm for the duration of the Contract including all amendments and are subject to audit if deemed necessary by Canada.

Solicitation No. - N° de l'invitation
T2012-180005/A
Client Ref. No. - N° de réf. du client
T2012-180005

Amd. No. - N° de la modif.
File No. - N° du dossier
HAL-8-41019

Buyer ID - Id de l'acheteur
ha1311
CCC No./N° CCC - FMS No./N° VME

ANNEX "G" to PART 3 OF THE BID SOLICITATION

ELECTRONIC PAYMENT INSTRUMENTS

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

- VISA Acquisition Card;
- MasterCard Acquisition Card;
- Direct Deposit (Domestic and International);
- Electronic Data Interchange (EDI);

Statement of Requirement
General Supporting Information for
Transport Canada – Navigation Protection Program Atlantic Region
(TC-NPP) Glass Reinforced Plastic Rigid Hull Inflatable Boat

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1.0 Role and Functions:

- 1.1 Use of Glass Reinforced Plastic (GRP) Rigid Hull Inflatable Craft within Transport Canada– Navigation Protection Program (TC-NPP).
- 1.1.1 Transport Canada– Navigation Protection Program (TC-NPP) buys, manages and operates numerous small craft in support of Departmental Programs and other Missions, within its various regions.
- 1.1.2 One of the primary missions includes harbours and ports patrol duties that require the transport and delivery of TC-NPP teams to waterborne locations in support of investigation of contravention of Canadian and provincial statutes, as well as support to various other departments including, but not restricted to Department of Fisheries and Oceans (DFO) and Department of National Defence (DND) and other federal and provincial agencies.
- 1.1.3 In carrying out these duties, the craft perform the following broad functions:
 - 1.1.3.1 conduct patrols
 - 1.1.3.2 perform searches and surveillance by visual and electronic means
 - 1.1.3.3 recover able-bodied or incapacitated people from other vessels and from the water
 - 1.1.3.4 tow equipment and other vessels (in emergencies only)
 - 1.1.3.5 provide a platform for performing first aid
 - 1.1.3.6 standby boat for diving operations

2.0 Utilization:

- 2.1 The craft is to be utilized by the Transport Canada– Navigation Protection Program (TC-NPP) in support of its mandate to approve works in the marine environment, conduct on-site follow up inspections and investigate complaints of hazards while effecting removals.
- 2.2 Inspections occur mainly in restricted shoal water areas where there is an abundance of natural and man-made hazards such as shoals, ropes and unmarked fishing gear. Travel to these inspection areas however involves long transits in open water and across bays with little or no shelter from wind, waves and fetch.
- 2.3 The vessel is to be launched and retrieved at locations and towed great distances throughout the Maritimes by trailer. Launch and retrieval locations vary from easy access to difficult cumbersome areas such as restricted access slipways in various states of disrepair, up to and

including natural beach launch areas. The vessel will be based in Moncton NB.

- 2.4 The craft may operate in conjunction with Department of Fisheries and Oceans (DFO) and Department of National Defence (DND) vessels, and RCMP vessels.
- 2.5 The craft may be launched and recovered by means of hoisting such as derricks, cranes utilizing bridle or single point lifting apparatus. Craft may also be deployed from a dock or launch and recovered by trailer.

3.0 Design and Construction Practices

3.0 Regulatory Requirements – Construction Standards

3.0.1 The vessel shall meet all applicable requirements made under the Canada Shipping Act 2001 as they apply to the vessel construction only, including but not limited to the following (as updated from time to time);

- (a) Small Vessel Regulations
- (b) Construction Standard for Small Vessels – TP1332
- (c) Collision Regulations
- (d) Ship Station (Radio) Regulations

3.0.2 Declaration of Conformity

The manufacturer must:

Complete a [Declaration of Conformity](#), stating which requirements apply and confirming that the vessel complies.

Send the declaration, along with the photographs or drawings described in the declaration form, to Transport Canada.

Transport Canada, Marine Safety (AMSRA)
Tower C, Place de Ville
330 Sparks Street
Ottawa, ON K1A 0N8

Provide a copy of the Declaration of Conformity to the end user.

3.0.3 Compliance Notice

The manufacturer or importer must attach a Compliance Notice to the vessel affirming that the vessel was built according to the

requirements in the *Small Vessel Regulations* and the *Construction Standards for Small Vessels*.

3.0.4 All safety equipment as required by the Small Vessel Regulations, not otherwise listed in this document will be supplied by TC – NPP.

3.2 Ergonomic Design-General

3.2.1 Hazardous operating conditions shall be prevented by arranging machinery and equipment in a safe manner, providing guards for all electrical, mechanical and thermal hazards to personnel and providing guards or covers for any controls that might be accidentally activated by contact of personnel.

3.2.2 Human Engineering factors considered in design shall include accessibility, visibility, readability, crew efficiency and comfort. All equipment shall be accessible for use, inspection, cleaning and maintenance.

3.3 Vibration

3.3.1 The boat and all components shall be free of local vibration that could endanger boat personnel, damage boat structure, machinery or systems, or interfere with the operation or maintenance of boat machinery or systems.

3.3.2 No component shall be permitted to vibrate unless designed and required by the vessels operation to do so. Mounts for moveable components, including items moved for stowage, towing or transport, shall be provided with resilient material as necessary to prevent rattling.

3.3.3 Loosening of fasteners under vibration shall be prevented by the use of self-locking fasteners, as applicable.

3.4 Equipment Protection

3.4.1 The contractor is responsible for the care of all equipment. All parts, especially those having working surfaces or passages intended for lubrication oil, shall be kept clean and protected during manufacture, storage, assembly and after installation. Equipment shall at all times be protected against dust, moisture or foreign matter and shall not be subject to rapid temperature changes or extremes in temperature.

3.5 Site Hygiene

3.5.1 During construction, all chips, shavings, refuse, dirt and water shall be removed at the completion of the work shift or sooner. The contractor shall ensure measures are taken to avoid a wear and damage incident to construction, and to prevent corrosion or other deterioration. Equipment subject to freezing shall be kept drained, except during test and trials. Equipment shall be kept clean and protected from environment prior to installation.

3.6 Facilities (applicable to GRP - glass reinforced plastic only)

3.6.1 It is mandatory that the contractor has a shop capable of maintaining temperature and humidity. It should be capable of maintaining temperature between 16 ° C and 25 ° C. It should be capable of maintaining relative humidity below 70 %.

3.7 Proven Design

3.7.1 Prototypes will not be accepted.

3.7.2 Demonstrator vessels with low usage that meet or exceed the specifications set out in this document may be considered. PSPC and TCMS inspectors are to be satisfied that the demonstrator vessel meets or exceeds the requirements before it will be considered a suitable substitution for a new vessel.

3.7.2 Used Vessels will not be accepted.

4.0 Integrated Logistic Supports

4.1 Components and Equipment Support

4.1.1 All components and all mechanical, auxiliary, electronic and electrical equipment installed on the boat, with the exception of the collar, shall be supported by parts and service within 30 days. All components and equipment shall be current production models.

4.2 Spare Parts

4.2.1 To facilitate replacement and interchange ability of parts, as well as maintenance procedures and operator training wherever practicable:

4.2.1.1 The contractor shall standardize on selection of equipment, fittings and

fabrication methods within all boats supplied

- 4.2.1.3 Exceptions shall only be accepted where expressly agreed by the TCMS-NWP and in all cases where advances in technology have rendered previous counterparts obsolete.

4.3 Parts Depot

- 4.3.1 Contractor's parts depots shall be capable of efficiently supplying spare parts for all components of the vessel within 24 hours

5.0 Documentation

5.1 Technical Publication General

- 5.1.1 The contractor shall provide three (3) complete sets of technical publications that provide a physical and functional description of the craft, its machinery and equipment, as well as sea-trial testing, performance documentation and acceptance certificates. The technical publication shall include a General Information Book, Technical Manuals, Operator Manuals, and a Preventive Maintenance List.

5.2 General Information Book

- 5.2.1 The General Information Book (GIB) shall include;
- 5.2.2 A description of the arrangement and function of all structures, systems, fittings and accessories fitted on the vessel, with illustrations as appropriate.
 - 5.2.2.1 Operating Procedures
 - 5.2.2.2 Basic operating characteristics (such as temperatures, pressures, flow rates etc.)
 - 5.2.1.4 Installation criteria and drawings, assembly and disassembly instructions with comprehensive illustrations showing each step (including instructions necessary for onboard repair of the collar).

5.3 Technical Manuals

- 5.3.1 The technical manuals shall consist of a complete set of detailed owners/operator's manuals, drawings, parts lists and supplemental data for all components of the boat (whether acquired from external sources or

custom manufactured), including:

- 5.3.1.1 Hull
- 5.3.1.2 Collar
- 5.3.1.3 Systems (steering, fuel, electrical, etc.)
- 5.3.1.4 Electronics
- 5.3.1.5 Fittings, accessories and ancillary equipment
- 5.3.1.6 Stability Assessment (Report)

5.4 Initial Spare Parts List

5.4.1 The Technical Manuals shall also include a list of recommended initial onboard spare parts to be stocked for the craft. At a minimum this list shall include the following items (as applicable.)

- 5.4.1.1 Collar: air valve, foot pump, pressure gauge, patch kit
- 5.4.1.2 Electrical: fuses, light bulbs
- 5.4.1.3 Boat structures and fittings: miscellaneous commonly used fasteners

6.0 Packaging and Shipping

6.1 Shipping and Delivery

- 6.1.1 Prior to shipping, the boat shall be secured to a cradle or designated trailer as described in Section 21.0 of this document, with adequate tie-downs, preserved and covered in accordance with this section.
 - 6.1.1.1 All areas of the boat shall be cleaned prior to covering for final shipping.
 - 6.1.1.2 Bilges shall be dry and free of oil and debris and the fuel tanks shall be dry.
 - 6.1.1.3 The propulsion system shall be preserved in accordance with the manufacturer's recommendations for storage of up to one year in an environment that will be subjected to freezing temperatures.
 - 6.1.1.4 The batteries will be disconnected.
 - 6.1.1.5 A durable warning plaque shall be wire tied to the steering wheel indicating that the boat has been preserved for shipping and storage and should not be started until the propulsion machinery has been reactivated.
 - 6.1.1.6 The cradle (or trailer) shall be fitted to prevent any movement of, or

damage to, the boat and equipment during shipment and storage. All contact points with the boat/trailer/cradle shall be padded where required.

- 6.1.1.7 A shrink-wrap cover shall be provided to protect the boat during shipping and storage.

7.0 Test and Trials

- 7.1 The contractor shall inspect and test the items listed below as a minimum, for adherence to the contract requirements and proper operation (proper operation means that the equipment can be started, operated, connected together and demonstrated to function in a normal fashion, (as applicable). All discrepancies shall be corrected prior to delivery. The required inspections and tests are minimums and are not intended to supplant any controls, examinations, inspections or tests normally employed by the Contractor to assure the quality of the boat.

- 7.1.1 Weight
- 7.1.2 Construction quality
- 7.1.3 Lifting gear
- 7.1.4 Propulsion system
- 7.1.5 Propulsion controls
- 7.1.6 Steering system
- 7.1.7 Fuel system
- 7.1.8 Electrical system
- 7.1.9 Starting system
- 7.1.10 Electronics
- 7.1.11 Emergency Towing Bits (also to be labelled with ratings)

7.2 Sea Trials - General

- 7.2.1 Sea trials shall be conducted by the Contractor to demonstrate the boat and its equipment conform to the requirements as stated in the contract and the performance requirements. All expenses incident to the trials shall be borne by the Contractor unless otherwise specified. A crew provided by the contractor shall operate the vessel during sea trials.

- 7.2.2 All Sea Trial instrumentation and equipment shall be furnished and operated by the Contractor. Trial instrumentation, where applicable, shall not replace the boat's instruments (e.g. engine tachometer, pressure gauges, thermometers). The Contractor shall furnish all necessary hardware and fittings and shall install the measuring devices. After satisfactory completion of the trials, all instrumentation shall be removed and all systems restored. The Contractor shall provide calibration data certifying the accuracy of the instrumentation for the tests.

- 7.2.3 The Contractor shall submit a Test & Trials Plan, with bid submission

including a description of all of the acceptance trials to be performed. As a minimum, the following test and trials shall be conducted:

- 7.2.3.1 Speed Trials - The speed trials shall be done over a certified measured course at least one nautical mile in length. Two runs shall be made over the course, one in each direction with the speeds for the two runs averaged.
- 7.2.3.2 Endurance Trial - The vessel shall operate at maximum speed for a minimum of sixty minutes in the Normal Operating Condition, giving consideration to the engine manufactures break in procedures. During the endurance trials, it shall be demonstrated that all parts of the propulsion system are in full operation. All systems shall be operated to check for proper lubrication, control and alignment. Fuel consumption shall be recorded for the one-hour trial.
- 7.2.3.3 Astern Propulsion - The vessel shall be operated and manoeuvred using astern propulsion to establish the astern performance. During the backing performance tests the throttles shall be set to provide 1/3 of the rated engine horsepower. In order to demonstrate astern performance of the engines in an emergency stop and to test the strength of the engine mounting arrangements, the engines shall be subjected to two stops from full power ahead at maximum speed to dead in the water using reverse thrust. Time required to perform this trial shall be recorded.
- 7.2.3.4 Steering Gear - Tests shall be conducted on the steering gear to demonstrate the adequacy of the steering system under all conditions. Manoeuvring tests shall be performed to ensure that the boat meets the stated requirements. Manoeuvring trials shall be conducted in the Normal Operating Condition (minimum crew, equipment, supplies and fuel) and repeated in the Full Load Conditions (maximum crew, equipment supplies and crew).
- 7.2.3.5 Lifting Gear Load Test - Lifting gear of each boat shall be load tested prior to shipment by loading the boat to 150% (Vessel weight plus 50%) of the Normal Operating Condition (minimum crew, equipment & supplies & fuel as defined in 9.1.8) and lifting the boat from a single point hoist using the boats lifting gear. A visual inspection shall be made of all lifting gear components to ensure that there is no evidence of distortion, cracking or failure.
- 7.2.3.7 The Technical Authority shall be notified no less than 24 hours prior to sea trials. PSPC reserves the right to witness or decline attendance of sea trials. Absence at sea trials does not relieve the Contractor of its responsibility to conduct and record sea trials. Sea trials results will be forwarded to the PSPC prior to delivery of the vessel.

7.2.3.8 At the conclusion of sea trials, the boat shall be thoroughly cleaned and inspected. The Contractor shall repair any damage to the vessel or ancillary equipment resulting from sea trials.

7.3 Final Inspection

7.3.1 Final Inspection shall not be performed until all tests have been satisfactorily completed with data available for review. The boat must be ready for delivery in all respects, except for final preparation for shipment. The Contractor shall document the results of the final inspection and furnish these results to the Technical Authority, a copy of the sea trial results shall be shipped with the deliverables for each boat. Where applicable, serial numbers and other identifying information shall be recorded for each boat and engine.

7.4 Acceptance and Training

7.4.1 Upon delivery, TC-NPP will conduct the final acceptance inspection. The Contractor shall repair any damage to the boat or ancillary equipment resulting from shipping, to the satisfaction of TC-NPP. Delivery will be to Transport Canada, 95 Foundry Street, Moncton, New Brunswick E1C 8K6.

The Contractor must provide specific one day training for the use and operation of the constructed vessel and its systems, including launching and trailering upon delivery. This training will be provided to Transport Canada Navigation Protection Program Officers

7.5 Trial Records

7.5.1 The contractor shall prepare a testing check sheet that certifies that each test has been completed. The check sheet shall indicate the actual loaded weight of the boat in Light Conditions. The check sheet shall also indicate the total loaded weight and the data for the 150% (vessel weight plus 50%) load lifting gear test. This check sheet shall be included with the deliverables of each vessel.

8.0 Construction References (as updated from time to time)

- 8.1 **Canada Shipping Act 2001**
<http://laws-lois.justice.gc.ca/eng/acts/C-10.15/>
- 8.2 Transport Canada Marine Safety
Small Vessel Regulations
<http://laws-lois.justice.gc.ca/eng/regulations/SOR-2010-91/>
- 8.3 Transport Canada Marine Safety
Collision Regulations
http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.%2C_c_1416/FullText.html
- 8.4 Transport Canada Marine Safety
Construction Standards for Small Vessels. (TP1332) 2010 Edition
<http://www.tc.gc.ca/eng/marinesafety/tp-tp1332-menu-521.htm>
- 8.5 Transport Canada Marine Safety
Ships Electrical Systems TP 127 - Sections 50 to 58 (less than 55 volts)
<https://www.tc.gc.ca/eng/marinesafety/tp-tp127-menu-263.htm>
- 8.6 Transport Canada Marine Safety
Ship Station (Radio) Regulations
<http://laws-lois.justice.gc.ca/eng/regulations/SOR-2000-260/>
- 8.7 Transport Canada Marine Safety
Approved Products Catalogue
<https://www.tc.gc.ca/eng/marinesafety/oep-navigation-safety-apci-2298.htm>

9.0 Physical Characteristics

- 9.1.1 Length overall between 7.0 and 8.5 metres.
- 9.1.2 Breadth overall between 2.8 and 3.2 metres.
- 9.1.3 Maximum draft (outboard motor lowered) between 0.80 and 0.90 metres.
- 9.1.4 Maximum draft (outboard motor raised) between 0.5 and 0.8 metres.
- 9.1.5 Maximum freeboard (from top of collar at midship, in normal load condition) 0.70 metres.
- 9.1.6 Maximum height of collar above deck 0.80 metres.
- 9.1.7 Displacement (in normal load condition) between 2000 and 3000 kg.
- 9.1.8 Normal load conditions:
 - 9.1.8.1 Minimum crew of 2 = 300kg
 - 9.1.8.2 Maximum crew of 4 = 600kg
 - 9.1.8.3 Equipment & supplies =900kg
 - 9.1.8.4 Minimum Fuel = 322 litres with integrated fuel fill and vent system.

10.0 Operational Performance

- 10.1 Unless otherwise stated, performance shall be for the conditions of zero sea state and no wind, in salt water with full load and complement. The craft shall be designed and constructed for ease of maintenance and repair, long life, and to be easily supportable by local commercial facilities and suppliers. The craft is expected to have a service life of at least 7 years, with an expected usage of between 300 and 1500 hours per year.
 - 10.1.1 Minimum speed: 20 knots in a sea state 6 with 35 knot wind.
 - 10.1.2 - 10.1.4 Deleted.
 - 10.1.5 **Steering**
 - 10.1.5.1 Capable of steering 15° from heading, in sea state 6, with seas from any

direction.

- 10.1.5.2 Steer and manoeuvre effectively at least 3 knots in sea state 6.
- 10.1.5.3 Maintain course, make good over ground, when proceeding at 3 knots with relative crosswinds of 35 knots.
- 10.1.5.4 Capable of turning its own length in sea state 6.
- 10.1.5.5 Capable of steering effectively in sea state 6 with winds of 35 knots while towing a 15 tonne (displacement) vessel at 5 knots.

10.1.6 Beaching

- 10.1.6.1 Capable of beaching on soft (sand, earth or clay) surfaces at a speed of up to 5 knots without damage to the hull.
- 10.1.6.2 Capable of beaching on hard (stone or concrete) surfaces at speeds of up to 3 knots without damage to the hull.

10.2 Depth under Keel

- 10.2.1 Operate fully in depths of one (1) metre with outboard motor lowered.
- 10.2.2 Basic manoeuvring in depths of 0.80 metres with outboard motor in the partially raised position.

11.0 Environmental Conditions

- 11.1 Capable of operating in day or night in the following conditions;
 - 11.1.1 Average ambient air temperature range: -15°C to + 30°C.
 - 11.1.2 Average water temperature: 0°C to +20°C.
 - 11.1.3 Wave heights of 4 metres to 6 metres (WMO Sea-State 6).
 - 11.1.4 Wind speeds of 35 knots to 50 knots.

12.0 Fabrication

12.1 General

- 12.1.1 Unless stated otherwise, all components, equipment and material shall be

Contractor supplied.

12.2 Structural Integrity

12.2.1 All structures and components (hull, deck, collar, console, seating cabin etc.) shall be of sufficient strength to withstand, when in the fully loaded condition, the lateral and vertical impact, loading that equates to the conditions for the operational profile and mission requirements.

12.3 Materials - General

12.3.1 Stresses

12.3.1.1 Material subject to stress at high or low temperatures shall have properties resistant to failure at the full range of anticipated temperatures.

12.3.2 Environmental Exposure

12.3.1.1. All materials shall be corrosion resistant and suitable for use in a salt water environment as detailed in the environmental conditions portion of the Performance Requirements. All materials normally subjected to sunlight shall resist degradation caused by ultraviolet radiation.

12.3.2 Dissimilar Metals

12.3.2.1 Direct contact of electrolytically dissimilar metals is not allowed. Electrolytic corrosion shall be prevented by insulating dissimilar materials from each other with gaskets, washers, sleeves, or bushings of suitable insulating material.

12.3.3 Aluminium

12.3.3.1 Aluminium alloy 5086-H116 or 5456-H116 shall be used for plate; aluminium alloy 5086-112 or 5456-H111 shall be used for extruded shapes and welded tubing and pipe. Non-structural items of trim and outfit such as hatch frames, castings, and hardware items may be of other aluminium alloys suitable for commercial saltwater marine use.

12.3.4 Stainless Steel

12.3.4.1 Stainless steel type 316L or 316 shall be used for all stainless steel applications except as noted. Alloy 316 shall not be used in any welded components.

12.3.5 Fasteners

12.3.5.1 All fasteners shall be of stainless steel.

- 12.3.5.2 Cadmium plated parts and fasteners, including washers, shall not be used.
- 12.3.5.3 Direct attachment of alloys containing copper to aluminium is not permitted except for an electrical bonding strap.
- 12.3.5.4 No fasteners shall be directly threaded into aluminium alloys or GRP. Through Bolting and Stainless Steel backing plates must be used.
- 12.3.5.5 Where nuts will become inaccessible after assembly of the vessel, nuts shall be captured to allow reassembly and prevent backing off. Unless otherwise specified, self-locking nuts shall be installed to prevent loosening of bolts due to shock and vibration.
- 12.3.5.6 Fasteners in deck traffic areas shall be flush-mounted to eliminate tripping and snagging hazards.

12.5.4 Painting and Preservation

- 12.5.5.1 Fibreglass components shall have a coloured gel-coat finish on all surfaces. Prior to delivery, the Contractor shall ensure that all not-painted exposed aluminium is free of cosmetic blemishes, including construction marking, grinder marks, scratches, gouges and stains.

12.6 Propulsion Systems

- 12.6.1 Twin (2x) 150 HP counter-rotating, outboard, 4 stroke engines with installed propellers.
- 12.6.2 Unless otherwise specified, the propeller will be stainless steel. Contractor shall inform the Technical Authority of appropriate pitch and diameter, and shaft length to meet the Performance Requirements as determined by the Contractor developed design check. Propellers will be supplied with engines.
- 12.6.3 The engines shall be installed in accordance with the engine manufacturer's recommendations. The use of engine manufacturer's approved accessories and equipment is required. Equipment and components shall not be used on the boat that would in any way void the engine manufacturer's warranties.
- 12.6.4 Engine packages shall incorporate an automatic shutdown feature for each engine to be mounted near the ignition switches

- 12.6.5 Contractor to supply and install the following equipment:
 - 12.6.5.1 Tachometer for each engine
 - 12.6.5.2 Water pressure gauge
 - 12.6.5.3 Trim gauge
 - 12.6.5.4 Controls, cables
 - 12.6.5.5 Ignition harnesses, mounted so that the key cannot collect water
 - 12.6.5.6 Fuel gauge for each tank with indicator which tank is in use.
 - 12.6.5.7 Hour meter for each engine
 - 12.6.5.8 Engine Temperature gauge for each engine
 - 12.6.5.9 Engine Charging Indicator for each engine

13.0 Construction Requirements

13.0.1 General

- 13.0.2 All construction shall be in accordance with the Construction Standard for Small Vessels (TP1332) 2010 Edition.
- 13.0.3 The vessels hull shall be fabricated to meet the requirements quoted in the Performance Requirements sections 9, 10 and 11 of this document.
- 13.0.4 The vessels strength is to be in accordance with the requirements of TP1332 Section 3. The manufacture shall provide a written attestation as to what construction standards were used to determine the vessel's scantlings.
- 13.0.5 Hull shape shall not impede water flow to the propulsion units and must direct spray and waves away from onboard personnel.
- 13.0.6 Fibreglass components shall have a grey or orange coloured gel-coat finish on all surfaces to a depth of 21-22 mils. All components of the boat, hull collar, cabin must be one color. Contractor can determine color, either grey or orange.
- 13.0.7 Prior to delivery, the Contractor shall ensure that all not-painted exposed aluminium is free of cosmetic blemishes, including construction marking, grinder marks, scratches, gouges and stains.

13.1 Hull, Collar and Deck

- 13.1.1 The TC–NPP RHI Boat, including hull, deck and all connected components are to be constructed of glass-reinforced plastic using fire-retardant Vinylester Resin and a compatible gel-coat.

- 13.1.2 The core material is to be Polyvinyl Chloride foam. The core is to be installed as per the manufacturer's specifications
- 13.1.3 The Transom is to be reinforced using Plum Creek 2" treated plywood or equivalent, laminated as per manufacturer's specifications.
<http://www.burtforest.com/Plum%20Creek%20AB%20Marine%20Grade%20Plywood.pdf>
- 13.1.4 A non-corrosive threaded plug shall be provided in the lowest point to drain the hull when out of the water.
- 13.1.5 A system is to be designed and incorporated into the construction of the stem that allows for the bowline and/or trailering hook to be attached to the bow. The fitting must be of a non-corrosive material and of sufficient strength to allow for towing the vessel at a speed of 5 knots in calm water in the normal loaded condition, on an even keel without damaging the vessel or causing undue chafing to the towline.
- 13.1.6 Collar shall be an inflatable type with at least 5 separate chambers of approximately equal volume; each fitted with a suitable inflation system and over-pressure relief valves calibrated to 3 psi.
- 13.1.7 The Inflatable collar shall be Hypalon 1670 Dtex or equal and shall be Grey or Black in colour.
- 13.1.8 Collars shall be interchangeable, to facilitate easy repair or replacement and have a diameter of between 560 and 610 millimeters so that custom fitting of spare collars is not required.
- 13.1.9 Inflatable collars shall be attached to the hull using mechanical fasteners in such a manner that the collar can be easily removed for repair or replacement. The use of screws and lag bolts or glue-on type collars are not acceptable.
- 13.1.10 Collar to be supplied with two pairs of step treads installed.
- 13.1.11 Collar must be supplied with a tensioner.
- 13.1.121 Inflatable collars shall be provided with protective wear strips all around. At least five extruded neoprene rubber, or equivalent, rubbing strakes (50 mm - 75 mm wide) shall be glued along the entire length of the outboard side of the collar to provide protection against abrasion and puncture.
- 13.1.13 Grab lines of nylon braided rope construction ½" diameter, shall be fitted along the collar on both the port and starboard sides to provide access from both within the boat and for persons in the water. Grab lines shall be

mounted on the centerline of the collar, by means of a heavy duty lacing cuff (not by D-Ring attachment).

- 13.1.14 A repair kit shall be provided for inflatable collars and GRP hulls.
- 13.1.15 All seams are to be hand buffed and glued.
- 13.1.16 Polyurethane sealant should be used on all interior seams and baffle edge.
- 13.1.17 The deck is to be moulded not GRP laminated over plywood.
- 13.1.18 Decks shall be self draining, by means of non-return freeing ports or similar.
- 13.1.19 The deck above the watertight compartments shall be bolted for easy removal to allow access for repair of buoyancy compartments beneath.
- 13.1.20 The deck is to have certified (6:1 safety ratio) recessed lifting lugs installed, capable of lifting the boat with its normal complement as defined in 7.2.3.5. Lugs are to be sited 2 fore & 2 aft in the deck
- 13.1.21 The deck shall have a moulded non-skid finish
- 13.1.22 Flush mounted deck tie downs, rated for 200 kg, will be fitted on the forward deck area for the securing of deck cargo (minimum of 4 required, spaced approx. 1 Metre apart). Tie down rings should be 2.5 cm in diameter.
- 13.1.23 316 stainless steel transom tie-down eyes and 316 stainless steel bow eye (suitable for trailering vessel at total capacity weight)
- 13.1.24 Watertight storage shall be provided of approx. 7 cu. ft capacity and securely fastened. The lid shall be covered in non-skid to prevent slipping. All stowage compartments shall be lockable, secured by positive means and operable by gloved or insensitive hands.
- 13.1.25 Arrangements shall be provided for safe, secure and accessible stowage of an anchor and cable, paddles, and other equipment.
- 13.1.26 The hull shall a deep-V-shaped, straked hull design. Hull shall be of laminated fiberglass commercial grade, with polished gel coat anti-fouling finish black or grey in colour. Self-bailing hull. Hull shall have mini-chines or step-chines along the bottom of the hull to permit the vessel to plane quickly and also allow the vessel to stay in planning mode at lower speeds with lower power settings.

13.2 Wheelhouse

- 13.2.1 Vessels Cabin shall be constructed of glass-reinforced plastic using fire-retardant Vinylester Resin and a compatible gel-coat or aluminum plate as per Section 12.3.3.1.
- 13.2.2 All doors, windows, hatches, etc are to be hose tested for watertightness as required by TP1332 Section 3.4.1.
- 13.2.3 The operator controls are to be located on the Starboard side of the vessel.
- 13.2.4 Minimum inside cabin dimensions are as follows:
 - 13.2.4.1 Height: 2000 mm (measured from finished cabin deck to inside of top of cabin)
 - 13.2.4.2 Width: 1500 mm (+/- 50 mm inside measure) (width at centerline of cabin)
 - 13.2.4.3 Depth: 2400 mm (+/- 5cm) (straight-line measure from inside corners of cabin along bulkhead from fore to aft) Roof shall extend 150mm back from the aft bulkhead.
- 13.2.5 Cabin placement shall not jeopardize vessel stability fore and aft, or port to starboard (placement of two 150hp motors on stern to be taken into account for stability purposes) Fully enclosed cabin bolted to the deck with 316 stainless steel bolts. Deck to be fabricated and stiffened to allow for installation of cabin.
- 13.2.6 Forward-facing cabin bulkhead shall be designed to reduce wind resistance
- 13.2.7 Weather-tight self-locking cabin door containing a window fitted with Safety Glass.
- 13.2.8 Door will open outward (hinged) and lead aft from back of cabin or slide to port or starboard.
- 13.2.9 Provide safety catch on rear exterior of cabin bulkhead to hold door open
- 13.2.10 Cabin shall contain a minimum of 6 windows (in addition to door window), two (2) in front of cabin, and two (2) in aft of cabin, one (1) on each side of cabin.
- 13.2.11 Forward windows shall have a heated blower affixed in a position that is capable of preventing fogging and moisture accumulation on the interior side of the complete area of the window.
- 13.2.12 The approximate dimensions for windows are as follows:
 - 13.2.12.1 Side windows - (tapered) 600 mm high, top width – 1100 mm, bottom width – 1400 mm

- 13.2.12.2 Front windows – 550 mm wide, 700 mm high
- 13.2.13 Forward-facing windows shall be equipped with heavy-duty marine wipers, with window washing features, complete with pump and tank
- 13.2.14 All windows shall be 1/4" (6mm) marine safety glass (Plexiglas is not acceptable). Glass shall be contained within a frame, bolted to the cabin.
- 13.2.15 Both side windows shall slide to open and contain a mechanism for self-locking when closed.
- 13.2.16.1 Two (2) wide-base foldable captain's chairs: adjustable front to rear and height adjustable, two-foot rest, adjustable backrest, and 2 folding armrests. Chairs shall be mounted to the deck and located directly behind the "Operator Controls" on the starboard side and directly adjacent to it on the port side. Chairs shall be located back from the console at a distance that will allow comfortable standing room in front of the chair. The seat shall slide far enough ahead to allow the operator to sit and operate the controls without having to lean forward.
- 13.2.16.2 Auxiliary folding seat(s) capable of accommodating two people shall be located to the port and behind the captain's chair but not block access to the doorway.
- 13.2.17 An alternative seating arrangement that that described in section 13.2.16 may be considered. The alternative shall be presented, by the manufacturer, in writing with a sketch outlining the proposed alternative arrangement to be considered prior to approval.
- 13.2.18 Upholstery on the seats shall be black or grey.
- 13.2.19 A fold down workstation table shall be inside the cabin to place a laptop on. A white/green or white/red work light should be placed at the workstation. The table shall be located to enable connection to a 12v DC or 120v AC 60Hz outlet as well as connection to the on-board navigation system and DGPS via a USB and/or 9 pin serial cable, or via Wi-Fi.
- 13.2.20 Grab Rails complete with reinforced attachments shall be located along sections of the interior cabin bulkheads. Located as required to maintain safe movement around the vessel while underway.
- 13.2.21 Grab rails complete with reinforced attachments shall be installed on exterior cabin bulkheads. Located as required to maintain safe movement around the vessel while underway.

- 13.2.22 Onboard-cabin anti fatigue deck matting shall be fitted for the complete cabin deck area. Any deck accesses covered by the matting shall be made accessible and in doing so shall not create tripping hazards.
- 13.2.23 A diesel forced air furnace including fuel tank. 7,500 BTU Intermittent, 6,150 BTU High or Continuous Output, 4100 BTU Medium, (for use when High is too Much and Low is too little) 2900 BTU Low (Lowest Setting). This correlates to operation of the heater on High, Medium and Low Settings. Furnace shall have hot-air blower leads to all forward windows to prevent fogging. The fuel tank shall be aluminium (or stainless steel) and shall be located in an enclosed accessible area in the vicinity of the cabin. The furnace fuel tank is to meet the fuel tank requirements as described in TP1332 section 7. Furnace shall exhaust away from all air intakes and access ways into the vessel. All electrical wiring, fuses, and switches to be located in an easy access location. The furnace fuel fill is to be located to allow easy fill without the removal of the tank or removal of the vessels equipment and / or structure.
- 13.2.24 Access plates fitted to allow access to fuel tank sending units, pickup tubes and for the depth sounder transducer to be configured to allow removal of access plates without the need to remove the cabin.
- 13.2.25 Cabin deck drain system to allow water drainage from cabin and prevent water from flowing from aft deck area into cabin
- 13.2.26 Radar Arch shall be installed on which may be mounted, antennae(s), lights, radar reflector, and other fittings.
- 13.2.27 Three accessory plugs (with watertight caps) will be installed on the boat, one on the operator console / Helm position and two on the port side of the wheelhouse console.
- 13.2.28 The vessel shall be fitted with a sewage holding tank system (a portable toilet, or sewage holding tank with deck pump out) installed and secured in accordance with the Construction Standards for Small Vessels.
- 13.2.29 The Transport Canada / Transports Canada logo must be affixed to each side of the wheelhouse, in a contrasting color. The logo in electronic format will be provided by Transport Canada and the contractor will provide and affix the decals.

13.3 Stability

- 13.3.1 The vessel shall have its stability assessed against a recognized standard applicable to the vessel type and design.

13.4 Ventilation Systems

- 13.4.1 The ventilation systems design, component selection and installation shall be in accordance with TP1332 “Construction Standards for Small Vessels” Section 6 – Ventilation Systems
- 13.4.2 The vessel shall be fitted with an underway ventilation system and a mechanical blower system as described in TP1332 Section 6

13.5 Fuel Systems

- 13.5.1 The Fuel Systems design, component selection and installation shall be in accordance with TP1332 “Construction Standards for Small Vessels” Section 7 – Fuel Systems
- 13.5.2 Each fuel system shall be fitted with a ball valve (fuel shut off) and an anti siphon valve fitted between the fuel tank and fuel hose. The fuel shut off valve shall be remotely operated with controls labelled indicating the purpose.
- 13.5.3 All fuel components and connections shall be readily accessible and labelled outlining their purpose.
- 13.5.4 The fuel fill station shall be designed and installed to prevent contamination from entering the fuel tank / system.
- 13.5.5 An audible fuel fill warning whistle shall be installed to allow monitoring of the tank filling process. The whistle shall stop sounding once the tank is full. The fuel fill / fuel vent shall prevent spilled fuel from entering the vessel.
- 13.5.6 All Fuel hoses are to be USCG Type A Hoses, Fuel supply shall be USCG Type A1 and fuel fill and fuel vent shall be either USCG Type A1 or A2. Fuel hoses shall also meet the requirements of, and be labelled with, the Society of Automotive Engineers (SAE) J1527 Standard.
- 13.5.7 Each fuel hose shall be protected from crushing, chaffing or any damage that may be present during the normal operation of the vessel.
- 13.5.8 Each fuel tank shall be fitted with a debris and water separating filter system that is accessible for ease of maintenance. Valves shall be fitted to allow easy removal of the filter(s) without complete drainage to the fuel system.

13.5.9 The fuel tank shall be baffled and manufactured from aluminium with sufficient fastening to prevent movement of the tank. Tanks shall be labelled as required by TP1332 section 7.11, indicating which standards they were constructed.

13.5.10 Each motor should have its own individual fuel line from the fuel tank.

13.6 Electrical System

13.6.1 The electrical system design, component selection and installation shall be in accordance with the Construction Standards for Small Vessels (TP1332) 2004 Edition (or as amended from time to time) Section 8 – Electrical Systems or the American Yacht and Boating Council (ABYC) as permitted by section 8.2 of TP1332.

13.6.2 All fitted electrical equipment shall be capable of operating simultaneously with all fitted electronics equipment without causing interference to any electronic equipment or to the magnetic compass.

13.6.3 The Contractor shall provide written confirmation as to what electrical construction standard was used and, if applicable, provide the installers electrical training certificates

13.6.4 The boat is to be equipped with a system of two (2) marine deep-cycle batteries - one for each motor connected in accordance with the motor manufacturer's technical specifications. If additional batteries are required, the awarded proponent will specify.

13.6.5 Batteries shall be marine grade with rollover caps and a minimum 1000 deep-cycle cranking amps. Battery capacity must be sized for engine operation, DC distribution system and AC requirements.

13.6.6 The vessel shall be fitted with battery selector / cross-over switches allowing either battery to be used to start an engine if necessary; as well as, switches that allow the isolation of the engines from the batteries when stored to minimize battery draw down. Battery switches shall be located to prevent snagging or accidental switching. A warning label shall be affixed at the battery switches indicating that the batteries must not be run simultaneously unless otherwise required by the engine manufacture.

13.6.7 Battery compartments must be weathertight and fitted with a means of venting hydrogen charging gas. Batteries must be secured to prevent damage due to movement.

- 13.6.8 Cables shall be grouped into wiring harnesses wherever possible. All wiring harnesses, where practical, shall be routed below deck.
- 13.6.9 Cabling / conductors passing through watertight boundaries, decks, bulkheads or other exposed surfaces shall be installed to maintain watertight integrity of the structure. Cable entry into watertight enclosures shall be through watertight marine glands of proper size. All electrical equipment shall be readily accessible for performing maintenance.
- 13.6.10 All below deck cabling shall be through conduit pipe. Cabling/conductors passing through decks, bulkheads or other structures shall be protected against chafing by the use of abrasive resistant grommets.
- 13.6.11 Routing cables through foamed spaces shall be avoided wherever possible. Cables that must be routed through foamed spaces shall be run in PVC conduit pipe. The pipe shall be arranged in a matter that prevents water from becoming entrapped in the pipe.
- 13.6.12 The electrical system shall be weatherproof and easily accessible, incorporating a waterproof breaker panel with a minimum of 15 circuits fitted as per TP1332.
- 13.6.13 Twelve (12) volt DC distribution system shall be provided to power the engines starting and boat service loads including:
- 13.6.13.1 Navigation lights.
 - 13.6.13.2 Interior Lights
 - 13.6.13.3 Navigational equipment.
 - 13.6.13.4 Instrumentation.
 - 13.6.13.5 Bilge Pumps
 - 13.6.13.6 Communications.
- 13.6.14 A six circuit AC current panel shall be provided as per TP1332. Power shall be converted from DC via a 2000 watt pure sine wave inverter.
- 13.6.15 Duplex 110 volt AC receptacles shall be provided in the interior cabin quantity 2 Watertight exterior ground faulted receptacles shall be provided on the exterior of the cabin fore and aft.
- 13.6.16 Shore power shall be designed and installed in accordance with TP1332 (ABYC) or TCMS standard – Ships Electrical Systems TP 127 for systems under 55 volts as it relates to shore power only. The charging systems shall be capable of handling the power requirements of the vessel.
- 13.7 Machinery Systems (Bilge, Steering, Exhaust, Shafting, Controls, etc)**

- 13.7.1 The Machinery Systems design, component selection and installation shall be in accordance with Construction Standards for Small Vessels (TP1332) Section 9 – Machinery Systems.
- 13.7.2 Steering system shall be remote hydraulic with self-contained oil reservoir, and replaceable seals on the rams.
- 13.7.3 Steering systems must be hydraulic with a maximum of 3.5 turns from hard over to hard over.
- 13.7.4 All hydraulic steering hoses must be routed below deck and all hoses must be routed so that there are no pinch points on the hoses.
- 13.7.5 The wheel/console connections shall be of robust construction to eliminate fore and aft or lateral movement of wheel/steering shaft fixture
- 13.7.6 The steering wheel shall be stiff enough that during rough water operations there is no flexing of the wheel and the wheel should be padded to provide a comfortable non-slip surface for the operator to grip.
- 13.7.7 Hydraulic Hoses shall be of sufficient size and length to prevent pulsing. Hoses must be suitable for use in an exposed marine environment complete with corrosion resistant fittings.
- 13.7.8 Where flexible connections are required for steering systems, suitable hose with detachable reusable type fittings shall be used.
- 13.7.9 Fittings and clamps shall be stainless steel. Bolts used in corrosion resistant steel shall, be similar material and not promote corrosion. Bolts used in bronze shall be monel or silicon bronze.
- 13.7.10 An electric bilge pump, as well as a fixed manual operated bilge pump of the diaphragm type, shall be fitted in each watertight division. The bilge pumps shall be located so that they take suction from the lowest point of the hull. Piping shall be installed which will allow the bilge pumps to discharge directly overboard.
- 13.7.11 A float switch shall be fitted that turns on the electric bilge pump when water is present in the bilge. The electric bilge pump control switch shall be located on the operator's console, with settings for 'On', 'Off' and 'Automatic' operation. An indicator light shall be provided at the console that lights when the bilge pump is operating.
- 13.7.12 Valves and handles shall be corrosion resistant and shall be located where they are readily accessible for operation, maintenance or removal. Each shall be labelled indicating its operation.

- 13.7.13 Audible alarms and visual warning lights shall be installed in accordance with the alarm manufacturer's recommendations. Also, to indicate such items as; high cooling-water temperature, low lubricating oil pressure, high bilge, etc. All alarms and gauges shall be sited in the operating console in the cabin.
- 13.7.14 Engine controls shall be situated on the dash to the starboard side, or to the starboard of the operator's console, and shall be situated in such a manner that the operation of one control, or the steering wheel, shall not inadvertently activate or deactivate any of the other controls.
- 13.7.15 The helm position must be outfitted as follows:
- 13.7.15.1 Tachometer for each engine
 - 13.7.15.2 Fuel gauge for each tank
 - 13.7.15.3 Cooling water temperature gauge for each engine
 - 13.7.15.4 Water pressure gauge for each engine
 - 13.7.15.5 Tilt/trim gauge for each outboard engine,
 - 13.7.15.6 An hour meter for each engine,
 - 13.7.15.7 A efficient compass with a means of illumination.
 - 13.7.15.8 Separate waterproof dimmer switches for the compass and engine instruments.
 - 13.7.15.9 Auto/Manual Bilge Pump switch(es) as outlined in section 13.7.11 above. High Bilge Alarm located so the audible and visual alarm can be easily seen / heard during typical operations of the vessel.
 - 13.7.15.10 All other alarms.
- 13.7.16 Unless otherwise specified, gauges shall be analogue-style, approximately 2" diameter. Tachometer gauges shall be approximately 3" diameter. Gauges shall be installed so they are readily visible by the operator while operating the boat.
- 13.7.17 All gauges shall be backlit with an adjustable dimmer. Progressive dimmers of marine grade shall be fitted wherever practicable, with the capability of dimming engine monitoring gauges and other indicators separately from compass illumination.
- 13.7.18 Propulsion control system installation shall include dual binnacle engine control located at the operator's position on the starboard side of the wheelhouse. The Control shall conform to engine manufacturer's recommendations for commercial use.

14.0 Navigation Equipment

- 14.1 Electronics must be supplied and installed by the awarded proponent and be compatible with each other (ex. Plotter, radio, AIS)
- 4.1.1 Raymarine "e" series multifunction display/plotter or equivalent (min 12" screen). This will include, chartplotting, gps, depth/sonar (downview), radar (HD color), the radar antennae (min 18inch), transducers and cables needed to operate the unit to its full capabilities.
- 4.1.2 Raymarine AIS650, or equivalent, transceiver and compatible transmit/receive/ gmdss 2 Antenna on stainless steel tilt mount.
- 4.1.3 Raymarine or equivalent VHF with DSC capabilities and compatible antenna on stainless steel tilt mount. VHF must be connected to GPS via NMEA to complete DSC capabilities.
- 4.1.4 The depth sounder shall be installed with the display at the operator position. The depth sounder shall be complete with a narrow cone shoot through-hull transducer mounted as per manufacturer's specifications.
- 14.2 The contractor shall provide and install a 4" (min) diameter damped card magnetic compass fitted with the following;
 - 14.2.1 Non-white (red or green) lighting shall be connected to the 12 volt DC electrical system.
 - 14.2.2 Its own waterproof marine-grade dimmer switch.
 - 14.2.3 The compass must be adjustable for deviation. A deviation card is to be provided.
 - 14.2.4 The compass shall be mounted in easy view of the operator when facing forward and professionally swung to indicate the deviation.
- 14.3 All required antennas to be secured to top of cabin and or radar arch using heavy-duty stainless steel marine ratcheted mounts so antennas can be folded down for transport.
- 14.4 Radar, plotter, and VHF/Hailer, computer interface model mounting area to be mounted and located as close to operator's position as possible. Radar and Plotter to be mounted in front of operator's position but must provide for total unobstructed forward, rear and side-to-side visibility for the operator.

15.0 Navigation Lighting

- 15.1 All navigation lights shall be fitted as defined in the *Collision Regulations*.

- 15.2 Navigation lights shall be permanently fitted with protected wiring and shall be waterproofed. The fitting of a combined lantern on the inflatable collar will not be acceptable.
- 15.3 The navigation lights shall be mounted so as not to interfere with vision of operator.
- 15.4 Fixtures shall be of such a design as to and resist the effects of vibration and moisture and shall be provided with adequate protection from damage.
- 15.5 The fixtures shall be of such a design as to resist the effects of vibration and shall be provided with adequate protection from damage, which may occur, when lying alongside a vessel or a pier. Fixtures shall be suitable for the marine environment and be of a robust design to withstand the typical operations of the vessel.
- 15.6 The Contractor shall supply and install an electric horn that meets the requirements of the *Collision Regulations*. The horn shall be operated by a spring-loaded switch located on the operator's console.
- 15.7 All lights to be LED where available.

16.0 Lighting

- 16.1 2 searchlights (1 million candela each) mounted on top of cabin, one port side one starboard side, each allowing 360^o coverage with remote control slew/tilt/focus capability in range of operator
- 16.2 Four (4) marine grade floodlights of a minimum 55 watt equivalent shall be fitted. Mounted on top of wheelhouse with adjustable mounts (all lights to be operated by individual switches located in the cabin). One facing port, one facing starboard, one facing forward and one facing aft, suitable for illuminating the exterior of the vessel.
- 16.3 A blue flashing light (strobe light) shall be fitted. (The Whalen 2519LP strobe light meets this requirement).
- 16.4 One 12V DC interior red/white light fixture in wheelhouse with dimmer switch.
- 16.5 One 12V DC light in the forward cuddy.
- 16.6 All lights to be LED where available.

17.0 Towing (Emergency Scenarios ONLY)

- 17.1 A barrier with sufficient strength to provide wheelhouse protection from a potential recoil of towline shall be fitted.
- 17.2 A crusiform tow post shall be fitted aft, ahead of the thrust point of the craft. (tow capacity 2,200 pounds line pull minimum)
- 17.3 A hand cranked tow reel shall be fitted alongside the aft tow post, with 50 metres of buoyant 3/4 inch diameter towline.
- 17.4 A removable crusiform tow post (tow capacity 750 pounds line pull minimum) is to be fitted forward.
- 17.5 A removable cover (colour black) is to be supplied for the towing reel with a fastening system that would allow for quick removal.

18.0 Lifting

- 18.1 The vessel shall be equipped with a four leg flexible fabric lifting bridle. The location and arrangement of lifting gear shall be such that it does not pose a safety hazard to the operator or crews nor interfere with boat operation. All bridle lifting lugs shall be reinforced and proof tested in accordance with TCMS Tackle Regulations. Lifting points shall not be located below the deck or within lockers or compartments. Lifting points shall be located so that the bridle does not snag on the boat structure, console, outfit or machinery. Lifting slings provided shall be flexible fabric strap type certified to safely lift the vessel in the fully loaded condition.

19.0 Safety / Emergency Equipment

- 19.1 Unless otherwise listed in section 19.2 below, the safety equipment outlined in the Small Vessel Regulations (SVR) shall be supplied by TC-NPP.
- 19.2 The following items shall be provided with appropriate stowage/securing arrangements (as appropriate for each item). All contractor supplied fittings, shall be heavy duty and corrosion resistant. All items shall be readily accessible (the foot pump and the repair kits shall be stowed in a stowage locker). Contractor shall supply and outfit the boat with the following items of emergency equipment:
 - 19.2.1 Fire extinguisher with bracket (as per SVR)
 - 19.2.2 Boat hook, 8 feet long, retractable
 - 19.2.3 Two (2) paddles

- 19.2.4 Anchor with line or chain (as per SVR)
- 19.2.5 Drogue sea anchor and line
- 19.2.6 Mooring lines
- 19.2.7 Collar patch kit, for inflatable collar. (Repair kit to include patch material, glue, cleaning solvent, abrasive cleaner and any other tools or materials required to patch collars.)
- 19.2.8 Hull repair kit. (1 litre fibreglass resin, catalyst, 1 square meter fibreglass mat, mixing container)
- 19.2.9 Foot pump, bellows type for inflatable collar

20.0 Miscellaneous

- 20.1 The contractor is to supply and install on the vessel an AM/FM radio and two waterproof speakers.

21.0 Trailer Package

- 21.1 The Contractor is to supply a trailer of suitable size to allow for safe road transportation and storage of the vessel. The requirements to be as follows.

- Trailer to be of fully hot dipped galvanized steel and of welded construction.
- Galvanized rims
- Multi Axel Trailer with incorporated loading and load support self-adjusting bunks.
- Trailer Capacity to be 1000 lbs over the weight of the vessel with a full complement minus crew. That is full fuel tanks plus allowance for equipment and supplies.
- Trailer design must be of sufficient length and width to properly support and highway transport the vessel
- Contractor is to adjust bunk supports and tongue weight to allow for proper positioning and balancing of the vessel for support and safe highway towing.
- Wheel sizes are to be a minimum 15 inch.
- Electro- Hydraulic, controller activated, (not surge activated) 4 Disc Braking System to be fitted to axles.
- Bearing Buddies (axel greasing) system/ Sure lube Axels complete with covers fitted to all wheels.
- Tongue size to fit 2 5/16" ball with safety chains and adjustable, non-swing type, tongue jack with foot plate (no wheel). Tongue jack to be removable and not welded directly to the trailer.
- Trailer Tongue locking security pin with 2 sets of keys are to be supplied.
- Harness to typical factory installed receptacles having 7 way round pin connectors.
- Spare Tire and mount to be fitted to the trailer.
- Trailer to be constructed, and wired with brake, park and turn signal lights in accordance with the provisions of the Highway Traffic Act. All Lights and Lenses are to be Waterproof LED
- Tie down points and tie downs are to be fitted to the trailer and supplied to allow for secure highway transportation. Heavy Duty Ratchet Straps to be supplied.

- Yellow Retro reflective tape to be fitted at various points along the sides, rear and front portions of the trailer for safety if trailer has to be pulled to the side of the road.
- Hydraulic Jack and wheel lug wrench to be supplied. Jack is to have a capacity to allow for change out of flat tires when the boat including all equipment and full fuel tank is loaded.
- A 12 volt Electric or Electro/Hydraulic two speed winch with winch webbing strap is to be mounted on the front of the trailer with non-corroding safety hook and bow chock. This is to be sized to comply with the fully loaded weight of the vessel including full fuel minus crew and must be sited to allow for unobstructed operation when performing boat trailering.