



**RETURN BIDS TO:**  
**RETOURNER LES SOUMISSIONS À:**  
Bid Receiving - PWGSC / Réception des  
soumissions - TPSGC

**REQUEST FOR PROPOSAL**  
**DEMANDE DE PROPOSITION**

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

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

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

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

**Comments - Commentaires**

<b>Title - Sujet</b> 13m GRP Cabin Vessel	
<b>Solicitation No. - N° de l'invitation</b> F7044-220092/B	<b>Date</b> 2022-11-10
<b>Client Reference No. - N° de référence du client</b> 20220092	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$MC-038-28856	
<b>File No. - N° de dossier</b> 038mc.F7044-220092	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> Eastern Standard Time EST <b>on - le 2022-12-05</b> Heure Normale du l'Est HNE	
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Robson, Vicki	<b>Buyer Id - Id de l'acheteur</b> 038mc
<b>Telephone No. - N° de téléphone</b> (613) 286-4376 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> New Brunswick Nova Scotia	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

**Vendor/Firm Name and Address**

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

**Issuing Office - Bureau de distribution**

Ship Construction, Refit and Related Services/Construction navale, Radoubs et services connexes  
11 Laurier St. / 11, rue Laurier  
6C2, Place du Portage  
Gatineau  
Québec  
K1A 0S5

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

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## **PART 1 - GENERAL INFORMATION**

### **1.1 Introduction**

The bid solicitation 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 Requirement, the Basis of Payment, Subcontractors, Insurance Requirements, the Federal Contractors Program for Employment Equity - Certification, and any other annexes.

### **1.2 Summary**

- 1.2.1 The Department of Fisheries and Oceans (DFO) has a requirement for four (4) 13.0 – 13.7m Glass Reinforced Plastic (GRP) Cabin Vessel complete with engines and trailer and built in accordance with the Technical Statement of Requirements (TSOR) in Annex "A".

#### Delivery Dates

The first two vessels must be delivered on or before **November 30, 2023**.

The remaining 2 vessels must be delivered on or before **March 30, 2024**.

#### Delivery Points

The completed boats and deliverables must be delivered to the following destinations:

Richiucto, NB  
Barrington, NS  
Burnside, NS  
Liverpool, NS

- 1.2.2 In addition to the requirement in 1.2.1, Canada shall have the irrevocable option to purchase a maximum of two (2) additional GRP vessels complete with engines and trailer, under the same terms and conditions of the resulting Contract, and at the optional prices provided in Annex "B". The option may be exercised at any time up to one year following delivery of the first RHIB. The option may only be exercised by the Contracting Authority.
- 1.2.3 This requirement is subject to the Canadian Free Trade Agreement (CFTA).
- 1.2.4 There is no security applicable to this requirement.
- 1.2.5 The Federal Contractors Program (FCP) for employment equity applies to this procurement; refer to Part 5 – Certifications and Additional Information, Part 7 - Resulting Contract Clauses and the annex titled Federal Contractors Program for Employment Equity - Certification."
- 1.2.6 This bid solicitation allows bidders to use the CPC 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.

### 1.4 Restriction on Bidding

This is a bid solicitation for construction of ship(s) that are less than 1000 tonnes in lightship displacement. The two shipyards selected by Canada under the National Shipbuilding Strategy for the combat and non-combat vessel work packages are not eligible to bid on it. Accordingly, neither Irving Shipbuilding Inc., Vancouver Shipyards Company Ltd., nor any of their subsidiaries or affiliates nor the person who controls any of them ("subsidiary", "affiliate," "control" and "person" are all as defined in the Canada Business Corporations Act. R.S.C. 1985, c C-44 as amended) is eligible to submit a bid or be awarded a contract for the work of this bid solicitation. By submitting a bid to this bid solicitation, a bidder is certifying that it is in compliance with the above restriction. It is a term of any contract that results from this solicitation that if this certification is untrue, whether made knowingly or unknowingly, Canada shall have the right, pursuant to the default provisions of the resulting contract, to terminate the resulting contract for default.

## 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.

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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](#) (2022-03-29) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

### **2.1.1 SACC Manual Clauses**

[B1000T](#) (2014-06-26)- Condition of Material- Bid

[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.

Note: For bidders choosing to submit using Canada Post Corporation's (CPC) Connect service for bids closing at the Bid Receiving Unit in the National Capital Region (NCR) the email address is:

[tpsgc.pareceptiondessomissions-apbidreceiving.pwgsc@tpsgc-pwgsc.gc.ca](mailto:tpsgc.pareceptiondessomissions-apbidreceiving.pwgsc@tpsgc-pwgsc.gc.ca)

Note: Bids will not be accepted if emailed directly to this email address. This email address is to be used to open a CPC Connect conversation, as detailed in Standard Instructions [2003](#), or to send bids through a CPC Connect message if the bidder is using its own licensing agreement for CPC Connect service.

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 3 calendar days before the bid closing date. Enquiries received after that time may not be answered.

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

### **2.4 Applicable Laws**

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

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory

specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

## 2.5 Improvement of Requirement During Solicitation Period

Should bidders consider that the specifications 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 5 days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

## 2.6 Bid Challenge and Recourse Mechanisms

- (a) Several mechanisms are available to potential suppliers to challenge aspects of the procurement process up to and including contract award.
- (b) Canada encourages suppliers to first bring their concerns to the attention of the Contracting Authority. Canada's [Buy and Sell](#) website, under the heading "[Bid Challenge and Recourse Mechanisms](#)" contains information on potential complaint bodies such as:
  - Office of the Procurement Ombudsman (OPO)
  - Canadian International Trade Tribunal (CITT)
- (c) Suppliers should note that there are **strict deadlines** for filing complaints, and the time periods vary depending on the complaint body in question. Suppliers should therefore act quickly when they want to challenge any aspect of the procurement process.

## 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. The CPC Connect system has a limit of 1GB per single message posted and a limit of 20GB per conversation.

Canada requests that the Bidder submits its bid in separately bound sections as follows:

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

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

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

### **3.2 Section I: Technical Bid**

In their technical bid, Bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability in a thorough, concise and clear manner for carrying out the work.

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

Bidders must also provide all information/documentation requested under section 4.1.1.1.

### **3.3 Section II : Management Bid**

In their management bid, Bidders must describe their capability and provide all documentation/information as requested in articles 4.1.2.1, 4.1.2.2, 4.1.2.3, and 4.1.2.4.

### **3.4 Section III: Financial Bid**

**3.4.1** Bidders must submit their financial bid in accordance with the Basis of Payment in Annex "B".

#### **3.4.2 Exchange Rate Fluctuation**

The requirement does not offer exchange rate fluctuation risk mitigation. Requests for exchange rate fluctuation risk mitigation will not be considered. All bids including such provision will render the bid non-responsive.

### **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, financial and certifications evaluation criteria.
- b) An evaluation team composed of representatives of Canada will evaluate the bids.

#### **4.1.1 Technical Evaluation- Mandatory Technical Criteria**

##### **4.1.1.1 Proven GRP Vessel Construction Experience**

Bidders must provide documentation for a minimum of two proven marine vessels of similar size, type and complexity to the requirement of this RFP which have been produced and in service within the last ten years. A prototype hull will not be considered for this requirement.

For the purposes of this evaluation, the terms similar size and type are defined as follows:

Similar size: 12.0m to 13.7m in length

Similar type: Glass Reinforced Plastic (GRP) construction experience

Complexity: Non-pleasure craft built and registered in accordance with TP 1332

Documentation required for each proven vessel must include:

- i. Hull identification numbers (HIN) from Transport Canada or equivalent to HIN if registered outside Canada;
- ii. Photos;
- iii. Draft stability calculations;
- iv. Calculated lightship weight;
- v. General Arrangement drawings;
- vi. Structural drawings showing deck plan, a centerline profile, and frame station construction details;
- vii. Detailed lines plan; and
- viii. Drawing of fuel supply arrangement

#### **4.1.2 Management Evaluation**

In order to be compliant, 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.**

##### **4.1.2.1 Marine Drafting and Engineering Capability**

The Bidder must provide objective evidence that it has either in-house capabilities, or has a written commitment for the duration of the Contract from a supplier to provide marine drafting and engineering services. The bidder or subcontractor must have the marine drafting and engineering experience and capabilities on construction projects for boats of similar size and type to the boats subject to this RFP.

##### **4.1.2.2 Project Schedule**

1. As part of its technical bid, the Bidder must provide a preliminary project schedule, in MS Project format or equivalent, indicating the sequence and the completion dates of major project milestones, deliverables, and project tasks based on a contract award as "day 0." The project schedule should 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 for each boat 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;
- c) Outfitting/electrical 75% complete but all equipment and components delivered to the Contractor and available for full inspection;
- d) Technical manuals delivered to Canada for review and approval (no less than 14 days prior to the planned delivery date);
- e) Contractor's tests and trials and final sea trials required by the TSOR;
- f) Boat, trailer and technical manuals delivered to Canada for final acceptance at destination;
- g) Start and the end of the 12 month warranty period.

#### **4.1.2.3 Subcontractors**

A list, in the form of the attached **Annex "C"** of subcontracts for labor and/or material must be included with the Bidder's Proposal, stating the name and address of each subcontractor, and a description (Make, Model No.) of the goods or services to be supplied by each.

#### **4.1.2.4 Contractor Quality Management System**

1. The Supplier must provide objective evidence that it has a Quality Assurance Program, which must be in place during the performance of the Work, and which addresses the quality control elements below.

2. The quality control elements must include, as a minimum:

- a. Quality Assurance Manual or Quality Assurance Program Descriptions
- b. Inspection and Test Plan
- c. Final Inspection
- d. Quality Records

3. The objective evidence may be in the form of a copy of the Supplier's Quality Assurance Manual which addresses these elements.

4. The Supplier must also provide a minimum of one (1) sample of completed quality records used on the most recent marine vessel construction at its facility.

#### **4.1.3 Financial Evaluation**

##### **4.1.3.1 Mandatory Financial Criteria**

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

In order to be compliant, 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

### 4.2.1 Mandatory Technical and Management Criteria

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical 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 property agreement of the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-) (<http://www.tpsgc-pwgsc.gc.ca/ci->

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if/politique-policy-eng.html), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

## **5.2.2 Federal Contractors Program for Employment Equity - Bid Certification**

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](#) website.

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

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](#)" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed annex titled [Federal Contractors Program for Employment Equity - Certification](#), before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

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

### **5.2.3.1 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 5 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.

## **PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS**

### **6.1 Security Requirements**

There is no security associated with this requirement.

## 6.2 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 "D".

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 Requirement

The Department of Fisheries and Oceans Canada has a requirement for four (4) Glass Reinforced Plastic (GRP) Cabin vessels complete with engines and trailer and built in accordance with Annex "A" Technical Statement of Requirement and Annex "E"- Bidder Questions and Canada Responses.

#### 7.1.1 Optional Goods

The Contractor grants to Canada the irrevocable option to purchase up to two (2) additional GRP Cabin Vessels and trailers under the same terms and conditions stated in the Contract, and at the firm unit prices provided in Annex B- Basis of Payment. The option may be exercised at any time up to one (1) year after the delivery of the initial boat and trailer. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

### 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) (<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](#) (2022-05-12), 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.

### 7.3 Security Requirements

7.3.1 There is no security requirement applicable to the Contract.

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## 7.4 Term of Contract

### 7.4.1 Delivery Dates

The first two vessels must be delivered on or before **November 30, 2023**.

The remaining 2 vessels must be delivered on or before **March 30, 2024**.

### 7.4.2 Delivery Points

Delivery of the completed vessels and deliverables must be made to:

Richiucto, NB  
Barrington, NS  
Burnside, NS  
Liverpool, NS

## 7.5 Authorities

### 7.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Vicki Robson  
Supply Specialist  
Public Works and Government Services Canada  
Defence and Marine Procurement Branch

Telephone: 613-286-4376

E-mail: [vicki.robson@tpsgc-pwgsc.gc.ca](mailto:vicki.robson@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 Project Authority

The Project Authority for the Contract is:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_

Tel: \_\_\_\_ - \_\_\_\_ - \_\_\_\_  
E-mail: \_\_\_\_\_

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

### 7.5.3 Inspection Authority

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_

Tel: \_\_\_\_ - \_\_\_\_ - \_\_\_\_  
E-mail: \_\_\_\_\_

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

### 7.5.4 Contractor's Representative

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_ - \_\_\_\_ - \_\_\_\_  
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"** for a cost of \_\_\_\_\_. Customs duties are included and Applicable Taxes are extra.

### 7.6.2 Limitation of Price

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.

### 7.6.3 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.

#### 7.6.4 Field Engineering and Supervisory Services

If field service representatives (FSR) and/or supervisory services are required for the work, the cost of all such services is to be included in the price for the work.

#### 7.6.5 Milestone Payments

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

- a. an accurate and complete claim for payment using [PWGSC-TPSGC 1111](#), Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all the certificates appearing on form [PWGSC-TPSGC 1111](#) have been signed by the respective authorized representatives;
- c. all work associated with the milestone and as applicable any deliverable required has been completed and accepted by Canada

#### 7.6.6 Schedule of Milestones

The schedule of milestones for which payments will be made in accordance with the Contract is as follows, and will apply per vessel:

Milestone No.	Description or Deliverable(s)	%	Firm Amount
A	Hull materials delivered to Contractor and sustained construction commenced.	20%	\$
B	Hull and deck completed. Cabin construction commenced.	30%	\$
C	Test and trials completed; accepted by Canada.	17%	\$
D	Boat, trailer and manuals delivered and accepted by Canada	30%	\$
E	End of 12 month warranty period- Final Acceptance.	3%	\$

The milestones shown above must be included and identified in all production schedules.

The payment for the delivery of **Milestone D** must be payable by Canada upon delivery and acceptance of the boat and manuals by Canada, minus the holdback for double the total estimated value of any outstanding work items.

The holdback for outstanding work must be payable by Canada upon completion of the outstanding work and when the work is accepted by Canada.

The payment for completion of the twelve month warranty period, **Milestone E** must be payable by Canada upon completion of the warranty period of the vessel, minus the total cost of any work undertaken by Canada to repair any defects subject to warranty.

## 7.7 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) Quality assurance documentation when applicable and/or as requested by the Contracting Authority.
2. The Goods and Services Tax or Harmonized Sales Tax (GST/HST), as applicable, must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no GST/HST payable as it was claimed and payable under the previous claims for progress payments.
  3. The Contractor must prepare and certify 1 original and 1 copy of the claim on form PWGSC-TPSGC 1111, and forward it to the Contracting Authority identified under the section entitled "Authorities" of the Contract for appropriate certification after inspection and acceptance of the Work takes place.

The Contracting Authority will then forward the original of the claim to the Technical Authority for certification and onward submission to the Payment Office for the remaining certification and payment action.

## 7.8 Certifications and Additional Information

### 7.8.1 Compliance

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

### 7.8.2 Federal Contractors Program for Employment Equity - Default by the Contractor

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

### 7.8.3 Workers Compensation

The contractor must maintain its account in good standing with the applicable provincial or territorial workers' compensation board for the duration of the Contract.

### 7.9 Applicable Laws

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

### 7.10 Priority of Documents

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

- (a) the Articles of Agreement;
- (b) the supplemental general conditions 1028 (2010-08-16)- Ship Construction- Firm Price;
- (c) the general conditions 2030 (2022-05-12)- Higher Complexity- Goods;
- (d) Annex A, Statement of Requirement;
- (e) Annex B, Basis of Payment;
- (f) Annex C, Subcontractors
- (g) Annex D, Insurance Requirements;
- (h) Annex E, Bidder Questions and Canada Responses;
- (i) the Contractor's bid dated \_\_\_\_\_.

### 7.11 Post Contract Award/Pre-Production Meeting

Within **3 working days** of the receipt of the contract, the Contractor must contact the Contracting Authority to determine the details of a pre-production meeting. The meeting will be held at the Contractor's plant or virtually, at the discretion of Canada.

Please note that the travel and living expenses for Government Personnel will be arranged and paid for by Canada.

### 7.12 Project Schedule

1. The Contractor must provide an updated detailed project schedule in MS Project format or equivalent to the Contracting Authority and the Technical Authority **5 days after award of Contract**.

2. This schedule must highlight the specific dates for the events listed below:

- (a) Kick-off meeting;
- (b) hull materials delivered to Contractor and sustained construction commenced;
- (c) hull and deck completed, but not closed in to allow for full inspection of the structure. 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;
- (d) 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 /Inspection Authority one week prior to inspection by the Technical/Inspection Authority;
- (e) Contractor's tests and trial and final sea trials required by the TSOR;
- (f) Boats and manuals delivered to Canada for approval; and
- (g) the start and the end of the 12 month warranty period

*Note: Technical Manuals will not be returned once approved.*

3. The schedule is to be regularly updated and available in the Contractor's office for review by Canada's authorities to determine the progress of the Work.

### **7.13 Progress Report**

1. 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.
2. The progress report must contain two Parts:
  - (a) PART 1: The Contractor must answer the following three questions:
    - i. is the project on schedule?
    - ii. is the project within budget?
    - iii. is the project free of any areas of concern in which the assistance or guidance of Canada may be required?

Each negative response must be supported with an explanation.

- (b) PART 2: A narrative report, brief, yet sufficiently detailed to enable the Technical Authority to evaluate the progress of the Work, containing at a minimum:
  - i. 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.
  - ii. an explanation of any variation from the schedule.

### **7.14 Progress Meetings**

Progress meetings, chaired by the Contracting Authority, will take place at the Contractor's facility, or virtually, 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.

### **7.15 Progress Review Meetings**

Progress review meeting shall encompass total project status as of the review date. The Contractor, at a minimum, must report on the following:

1. Progress to date;
2. Variation from planned progress and the corrective action to be taken during the next reporting period;
3. A general explanation of foreseeable problems and proposed solutions, including an assessment of their impact on the contract in terms of schedule, technical performance and risk. The proposed solution should include the effort involved and the consequences to the schedule (Risk Register);
4. Proposed changes to the schedule;
5. Progress on action items, problems or special issues;
6. Deliverables submitted prior to PRM;
7. Milestones (technical and financial);
8. Activities planned for the next reporting period;
9. Status of any change notifications and requests; and
10. Other business as mutually agreed to by CANADA and the Contractor.

### **7.16 Procedures for Design Change or Additional Work**

These procedures must be followed for any design change or additional work.

1. When Canada requests design change or additional work:
  - a. The Technical Authority will provide the Contracting Authority with a description of the design change or additional work in sufficient detail to allow the Contractor to provide the following information:
    - i. any impact of the design change or additional work on the requirement of the Contract;
    - ii. a price breakdown of the cost (increase or decrease) associated with the implementation of the design change or the performance of the additional work using either the form [PWGSC-TPSGC 1686](#), Quotation for Design Change
    - iii. a schedule to implement the design change or to perform the additional work and the impact on the contract delivery schedule.
  - b. The Contracting Authority will then forward this information to the Contractor.
  - c. The Contractor will return the completed form to the Contracting Authority for evaluation and negotiation. Once agreement has been reached, the form must be signed by all parties in the

appropriate signature blocks. This constitutes the written authorization for the Contractor to proceed with the work, and the Contract will be amended accordingly.

2. When the Contractor requests design change or additional work:

- a. The Contractor must provide the Contracting Authority with a request for design change or additional work in sufficient detail for review by Canada.
- b. The Contracting Authority will forward the request to the Technical Authority for review.
- c. If Canada agrees that a design change or additional work is required, then the procedures detailed in paragraph 1 are to be followed.
- d. The Contracting Authority will inform the Contractor in writing if Canada determines that the design change or additional work is not required.

3. Approval:

The Contractor must not proceed with any design change or additional work without the written authorization of the Contracting Authority. Any work performed without the Contracting Authority's written authorization will be considered outside the scope of the Contract and no payment will be made for such work.

### **7.17 Insurance Requirements**

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

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

The Contractor must forward to the Contracting Authority within ten (10) days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. For Canadian-based Contractors, coverage must be placed with an Insurer licensed to carry out business in Canada, however, for Foreign-based Contractors, coverage must be placed with an Insurer with an A.M. Best Rating no less than "A-". The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

### **7.18 Shipping Instructions- Free on Board Destination and Delivery Duty Paid**

Goods must be consigned and delivered to the destinations specified in the contract, including all delivery charges and customs duties and applicable taxes.

## 7.19 SACC Manual Clauses

A1009C- Access to work sites (2008-05-12)

D0018C- Delivery and Unloading (2007-11-30)

D3015C- Dangerous Goods / Hazardous Products - Labelling and Packaging Compliance (2014-09-25)

D9002C- Incomplete Assemblies (2007-11-30)

H4500C- Lien Section 427 of the Bank Act (2010-01-11)

## 7.20 Acceptance

1. Canada's provisional acceptance for delivery of the vessel must occur with the execution of a certificate in accordance with form **PWGSC 1105** upon satisfactory completion of the vessel and tests and trials. The execution of the certificates must in no way relieve the Contractor of any obligations under the Contract.
2. It is understood and agreed that where the work has been substantially completed and the parties have agreed upon the terms and conditions for the Contractor to make good any deficiencies, the certificate referred to above may be executed with a statement attached concerning the rectification of the deficiencies by the Contractor.

## 7.21 Dispute Resolution

- (a) The parties agree to maintain open and honest communication about the Work throughout and after the performance of the contract.
- (b) The parties agree to consult and co-operate with each other in the furtherance of the contract and promptly notify the other party or parties and attempt to resolve problems or differences that may arise.
- (c) If the parties cannot resolve a dispute through consultation and cooperation, the parties agree to consult a neutral third party offering alternative dispute resolution services to attempt to address the dispute.
- (d) Options of alternative dispute resolution services can be found on Canada's Buy and Sell website under the heading "Dispute Resolution".

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## **ANNEX "A"**

### **TECHNICAL STATEMENT OF REQUIREMENT**

*Attached.*

**ANNEX "B"**

**BASIS OF PAYMENT**

Note: Bidders must indicate the following items, their unit bid price, excluding taxes.

**B1: Firm Prices (CAD\$)**

Item	Description	Unit Price	Quantity	Total Price (CAD\$)
B1.1	One (1) 13.0- 13.7 GRP vessel built in accordance with Annex "A" & Annex "E".	\$	4	\$
B1.2	One (1) trailer built in accordance with Annex "A" & Annex "E".	\$	4	\$
B1.3	Delivery of vessel and trailer to Richiucto, NB.	\$	1	\$
B1.4	Delivery of vessel and trailer to Barrington, NS.	\$	1	\$
B1.5	Delivery of vessel and trailer to Burnside, NS.	\$	1	\$
B1.6	Delivery of vessel and trailer to Liverpool, NS.	\$	1	\$
<b>Total Vessels &amp; Trailers (excluding taxes):</b>				<b>\$</b>

**B2: Charge-out Rate/ Material Mark-up for Unscheduled Work**

The following unscheduled work rates will be included in the Basis of Payment, however they will not form part of the bid evaluation. These rates must remain valid for the duration of the Contract.

Bidders must provide the following rates:

1. The Charge-out Rate specified below includes all classes of labor, engineering and foreperson, and all overheads, supervision and profit. The Charge-out Rate will be used for pricing unscheduled work that results in an increase or decrease in the Work Period, except as noted in the clause entitled "Overtime."  
**Charge-out Rate - \$..... /person/hour.**

2. Overtime:

Occasionally, Canada may elect to authorize overtime, for **Unscheduled Work** only. If this is the case, and the rate is greater than the Charge-out Rate, cost of labor hours will be determined on the following basis;

**Time and one-half rate: \$..... /person/hour**  
**Double Time Rate: \$..... /person/hour**

3. The cost of material must be the net laid-down cost of the material to which must be added a mark-up of 10% of the net laid-down cost of the material. For the purposes of pricing, **Unscheduled Work** and material must be deemed to include subcontracts.

**B3: Optional GRP Vessel and Trailer**

1. If additional funding becomes available, the Canadian Coast Guard may choose to exercise the option, in whole or in part, to purchase up to two (2) additional vessels & trailer, built in accordance with Annex "A" and Annex "E". Therefore, Bidders are invited to propose a price for the supply of the additional vessels and trailers.

2. The price quoted for the option must be firm, remain valid and open for acceptance by Canada for one 1 year after the delivery of the initial vessel. The option proposed must be in accordance with the terms and conditions of this RFP.

3. The option proposed will not form part of the Evaluation for the award of a contract in response to this RFP.

4. In this RFP, only the option proposed by the successful bidder may be considered by Canada.

5. The option, if incorporated into the Contract, in whole or in part, may or may not be exercised at the sole discretion of Canada.

Canada reserves the right to negotiate the priced option.

Item	Description	Unit Price	Quantity	Total Price (CAD\$)
B3.1	One (1) GRP vessel built in accordance with Annex "A" & Annex "E".	\$	2	\$
B3.2	One (1) trailer built in accordance with Annex "A" & Annex "E".	\$	2	\$

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**ANNEX "C"**

**SUBCONTRACTORS**

<b>Specification Item</b>	<b>Description of Goods/Services (Incl. Make, Model Number as applicable)</b>	<b>Name of Supplier</b>	<b>Address of Supplier</b>

## ANNEX "D"

### 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), (o), (p), (q) not used.
  - (r) 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

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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 the Department of Fisheries and Oceans 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.  
*(Contracting officers must insert the following option, if applicable.)*
- (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:

*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*

- 4. 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.

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## **ANNEX « E »**

### **BIDDER QUESTIONS AND CANADA RESPONSES**

*This Annex will be populated with the questions addressed during the solicitation period and included with the resulting Contract.*

## ANNEX "F" to PART 5 OF THE BID SOLICITATION

### FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY – CERTIFICATION

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

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

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

Complete both A and B.

A. Check only one of the following:

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

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

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

OR

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

B. Check only one of the following:

- B1. The Bidder is not a Joint Venture.

OR

Solicitation No. - N° de l'invitation  
F7044-220092/B

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur  
038mc

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

File No. - N° du dossier  
038mc.F7044-220092

CCC No./N° CCC - FMS No./N° VME

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

**DEPARTMENT OF FISHERIES AND OCEANS**

**ANNEX A**

**Technical Statement of Requirements**

**13.0 - 13.7m Glass Fiber Reinforced Plastic (GRP) Boat and  
Trailer**

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## 1. ABBREVIATIONS

ABYC	American Boat and Yacht Council
AC	Alternating Current
ASTM	American Society for Testing and Materials
CFM	Contractor Furnished Material
CCG	Canadian Coast Guard
CSA	Canada Shipping Act
CSA	Canadian Standards Association
COLREGS	Collision Regulations
DC	Direct Current
FRP	Fibre Reinforced Plastic
GPS	Global Positioning System
GSM	Government Supplied Material
ISO	International Organization for Standardization
PVC	Polyvinylchloride
RIB	Rigid Inflatable Boat
TA	Technical Authority (As defined by the Contract)
TCMS	Transport Canada Marine Safety
TSOR	Technical Statement of Requirements
UV	Ultraviolet
VHF	Very High Frequency

## 2. LIST OF REFERENCE DOCUMENTS

REFERENCE	TITLE
ASTM F1166	Standard Practice for Human Engineering Design for Marine Systems, Equipment and Facilities.
CT-043-EQ-EG-001-E	Canadian Coast Guard Welding Specification
TP 1332 (2010)	Construction Standards for Small Boats.
TP 13430	Standard For Tonnage Measurement of Ships.
TP 14070	Small Commercial Vessel Safety Guide.
ISO 12217	Small Craft – Stability and Buoyancy Assessment and Categorization.
Canada Shipping Act, 2001	Small Vessel Regulations
Canada Shipping Act, 2001	Collision Regulations (COLREGS)
ABYC	American Boat and Yacht Council Standards
Canadian Standards Association (CSA) CSA W47.2-M1987	Certification of Companies for Fusion Welding of Aluminium
(CSA) C22.2 No. 183.2-M1983 (R1999)	Standards for DC Electrical Installations on Boats
(CSA) C22.2 No. 183.2-M1983 (R1999)	Standards for DC Electrical Installations on Boats
IEEE Standard 45	Recommended Practice for Electrical Installations on Shipboard

### **3. OVERVIEW**

#### **3.1 GENERAL**

3.1.1 The Department Of Fisheries and Oceans (DFO) purchases, manages and operates numerous small craft in support of its Departmental programs and other missions. The primary role of this boat will be recovery of illegal and abandoned fishing gear in the North Atlantic Right Whale protection zone.

#### **3.2 REQUIREMENT**

3.2.1 These vessels must be built based on a stock small working or commercial boat hull form with a minimum of customization as indicated herein.

3.2.2 Prototype hulls will not be considered for this procurement.

3.2.3 Bidders must provide documentation for a minimum of two proven hulls produced and in service within the last 10 years.

3.2.4 The Contractor must design, fabricate and deliver 4 vessels that will be 13.0 to 13.7 meter Glass Reinforced Plastic (GRP) boat with cabin, powered by one 850 to 999 hp inboard diesel engine with propeller and shaft based on the 2010 Transport Canada Marine Safety Branch (TCMS) Marine Safety Publication TP 1332 "Construction Standards for Small Vessels" (hereinafter referred to as TCMS TP 1332). The vessel shall be no more than 15 GT.

3.2.5 The patrol boat must be fast enough to allow rapid deployment from home port to the work area and seaworthy to allow prudent, safe operation and sea-kindliness to minimize crew fatigue. The area of operation is the Gulf Region particularly the Gulf of St-Lawrence and the Bay of Chaleur up to 48 kilometers from shore in sea state 6.

3.2.6 The boat must be 13-13.7 m long and configured with a cabin with the ability to accommodate a crew of four.

3.2.7 Note, there are changes required to the build of the boat depending on location. The two categories of build will be divided between Maritimes and Gulf Region, and identified within this TSOR, and as an appendix.

#### **3.3 TECHNICAL & DOCUMENTATION REQUIREMENTS**

3.3.1 The Contractor is responsible for all aspects of design and production of the boat.

##### **3.3.2 DATA PACKAGE**

The Data Package must demonstrate that the boat will be fully seaworthy, operable and fit in all regards for the purposes intended. The Contractor must submit their Data Package during the vessel development phase for review by the Technical Authority to ensure the boat and documents are in accordance with the Contract requirements and will allow DFO to fully register the vessel under TP1332 (2010) Non-Pleasure craft

3.3.2.1.1 All required Transport Canada drawing approvals under the defined regulations;

### **3.3.3 FINAL DATA PACKAGE**

- 3.3.3.1.1 The Contractor must provide to Canada all documentation required by the Contract, this TSOR and other annexes or attachments to the Contract.
- 3.3.3.1.2 The requirements for the Final Data Package is attached hereto in Appendix

## **4.0 GENERAL REQUIREMENTS**

### **4.1 FACILITIES**

- 4.1.1 The Contractor must have a shop capable of maintaining temperature and humidity appropriate for temperature and moisture sensitive materials, painting and as applicable.
- 4.1.2 It must be capable of maintaining temperature between 16°C and 25°C.
- 4.1.3 It must be capable of maintaining relative humidity below 70%.

### **4.2 SITE CLEANLINESS**

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

### **4.3 EQUIPMENT PROTECTION**

- 4.3.1 The Contractor is responsible for the care of all equipment.
- 4.3.2 All parts, especially those having working surfaces or passages intended for lubricating oil, must be kept clean and protected during manufacture, storage, assembly and after installation.
- 4.3.3 Equipment must at all times be protected against dust, moisture or foreign matter and must not be subject to rapid temperature changes or extremes in temperature.
- 4.3.4 Any damage to the motors must to repaired or replaced at contractors expense.

### **4.4 CONSTRUCTION STANDARDS**

- 4.4.1 Vessel constructed under this TSOR must be designed, constructed, inspected, and certified to meet the requirements of the following standards, regulations and codes: Transport Canada Marine Safety Regulation TP 1332 (2010) Construction Standards for Small Vessels. This standard references ISO and ABYC standards covering structure, fuel, electrical, stability and drainage requirements.

- 4.4.2 CSA C22.2 No. 183.2-M1983 (R1999) Standards for DC Electrical Installations on Boats and ABYC 'E' Electrical Standards.
- 4.4.3 CWB CSA/ACNOR W47.2; Division 2.1 certification for Aluminum Welding—latest revision.
- 4.4.4 ASTM F1166-07 Standard Practice for Human Engineering Design for Marine Systems, Equipment, and Facilities.
- 4.4.5 Boat to be constructed to ISO Category C requirements.
- 4.4.6 The boats constructed under this TSOR must be fabricated of Glass Reinforced Plastic.
- 4.4.7 The Contractor must arrange for Technical/Contracting Authority site visits, during all phases of each boat's construction. The site visits are required to insure that all boats constructed under this TSOR comply with each standard addressed in this TSOR. The Contractor must supply an electronic (AutoCAD DWG format) copy and two (2) hard copies of all drawings for the boat design to the Technical Authority.
- 4.4.1 The Contractor must supply a signed letter ensuring the proposed boat complies with TCMSB TP 1332 and a completed "*Builder's Certificate for First Title in Canada*" Form ([https://wwwapps.tc.gc.ca/Corp-Serv-Gen/5/forms-formulaires/download/84-0040\\_BO\\_PX](https://wwwapps.tc.gc.ca/Corp-Serv-Gen/5/forms-formulaires/download/84-0040_BO_PX)), to ensure compliance with the current TCMSB requirements.
- 4.4.2 Electrical systems for the boat must be in accordance with TCMS TP 1332 Section 8 "Electrical Systems".

## 4.5 MATERIALS

- 4.5.1 All materials must be corrosion resistant and suitable for use in a salt water environment as detailed in the Operational Requirements. All materials normally subjected to sunlight must resist degradation caused by ultraviolet radiation. Galvanized materials are unacceptable.
- 4.5.2 Dissimilar Metals: Direct contact of electrolytically dissimilar metals is not allowed. Electrolytic corrosion must be prevented by insulating dissimilar materials from each other with gaskets, washers, sleeves, or bushings of suitable insulating material.
- 4.5.3 Aluminium: Aluminium alloy types 5086-H116 or 5086-H32 must be used for plate; aluminium alloy 6061-T6 (anodized grade) or 6063-T54, suitable for type 5356 filler alloy, must be used for extruded shapes and welded tubing and pipe. Non-structural items of trim and outfit such as hatch frames, castings, consoles, and hardware items may be of other aluminium alloys suitable for commercial salt water marine use such as dual rated 5083 / 86 or 5052.
- 4.5.4 Where Marine Sealant is used it must be 3M 4200, Sika flex 291 or their equivalents.
- 4.5.5 Stainless Steel: Stainless steel type 316L or 316 must be used for all stainless steel applications except as noted. Alloy 316L must be used in any welded underwater components.
- 4.5.6 Fittings and clamps must be stainless steel. Bolts used in all fittings must be Type 316 stainless steel.

- 4.5.7 Where flexible connections are required for steering and fuel systems, the contractor must use the recommended OEM required connections and install them in accordance with OEM recommendations.
- 4.5.8 All materials and equipment must be stored, installed and tested in accordance with the manufacturer's guidelines, recommendations and requirements.

## **4.6 FASTENERS**

- 4.6.1 All fasteners must be in accordance with section 4.5.
- 4.6.1.1 Dissimilar Metals: Direct contact of electrolytically dissimilar metals is not allowed. Electrolytic corrosion must be prevented by insulating dissimilar materials from each other with gaskets, washers, sleeves, or bushings of suitable insulating material.
- 4.6.1.2 Cadmium and plastic plated parts and fasteners, including washers must not be used.
- 4.6.1.3 If otherwise required by the equipment manufacturer; provided that, in reference to article 4.5.7 whereby a material other than stainless steel is recommended by the OEM equipment manufacturer for items such as fasteners, washers, fittings and parts, these recommended items must be of corrosion resistant material other than cadmium plate or galvanized but must ultimately meet TP1332 regulations.
- 4.6.1.4 No fastener may be directly threaded into GRP, aluminum or Stainless steel. Separate washers, nuts and/or backing plates must be used as appropriate. Tapped insert plates or internal/external threaded screws maybe required for securing deck equipment.
- 4.6.1.5 Fasteners subject to loosening under vibration must be secured, as applicable, by either; self-locking nuts, lock nuts, wired nuts or lock washers. Where nuts will become inaccessible after assembly of the vessel they must be captured or anchored to prevent backing off and to facilitate maintenance and reassembly. Unless otherwise specified, self-locking nuts must be installed to prevent loosening of fasteners due to shock and vibration.
- 4.6.1.6 Direct attachment of alloys containing copper to aluminum is not permitted except for a single electrical bonding strap.
- 4.6.1.7 Excepting the bonding strap [4.6.1.7], direct contact of electrolytically dissimilar metals is not permitted and must be prevented by insulating dissimilar materials from each other with gaskets, washers, sleeves, or bushings of suitable insulating material.
- 4.6.1.8 Fasteners in deck traffic areas must be flush or countersunk to eliminate tripping and snagging hazards.
- 4.6.1.9 Fittings and clamps must be stainless steel.
- 4.6.1.10 Bolts used in all fittings must be Type 316 stainless steel.

## **4.7 ERGONOMIC DESIGN**

- 4.7.1 Hazardous operating conditions must 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 accidentally be activated by contact of personnel.
- 4.7.2 The boat must be designed and constructed to accommodate both male and female crew from approx. 1.6 m to 1.9 m in height, wearing cold weather clothing and equipment in accordance with ASTM F1166-07 Standard Practice for Human Engineering Design for Marine Systems, Equipment, and Facilities.
- 4.7.3 Contractor must consider the crew will be wearing cold weather clothing and equipment and will normally be operating in the standing position.
- 4.7.4 Human engineering factors considered in design must include accessibility, visibility, readability, crew efficiency and comfort. All equipment must be accessible for use, inspection, cleaning and maintenance.
- 4.7.5 Equipment must be accessible for use, inspection, cleaning and maintenance as per ASTM F1166-07. All handles, latches and switches must be of sufficient size and designed to be operated with a gloved hand.

## **5.0 PHYSICAL CHARACTERISTICS**

### **5.1 BOAT PARTICULARS**

- 5.1.1 Length overall – 13.0 – 13.7 metres.
- 5.1.2 Breadth overall – between 4.57 and 5 metres.
- 5.1.3 Maximum draft - 2 meters.
- 5.1.4 Maximum freeboard (in normal operating condition) - 0.75 meters.
- 5.1.5 Safe deck load : a minimum of 70 – 1.22m x 0.61m x 0.39m lobster traps safely stacked weighing 31.75kg each OR a minimum of 30 crab traps of dimensions: 2.13 m width by 0.72m depth of snow crab traps safely stacked weighing 90.71kg each
- 5.1.6 Normal load conditions:
  - 5.1.6.1 Crew of 4 = 400kg
  - 5.1.6.2 Fuel = 95% full tank load
  - 5.1.6.3 Equipment & supplies = 680kg
- 5.1.7 Propulsion – Main power Single inboard diesel
- 5.1.8 Top speed not less than 20 knots in normal load conditions
- 5.1.9 Cruising speed not less than 14 knots at @ 80% engine power in normal load condition
- 5.1.10 Normal Loaded condition speed not less than 14 knots.

## **6.0 OPERATIONAL REQUIREMENTS**

### **6.1 GENERAL**

- 6.1.1 Unless otherwise stated, performance must be for conditions of zero sea state and no wind, in salt water with boat in the Normal Operating Condition.
- 6.1.2 The boat must have a service life of at least 12 years, with an expected usage of between 150 and 200 hours per year. Lifecycle costing projections must be supplied by manufacturer with their proposal, particularly for hull, propulsion, steering and other components and systems.
- 6.1.3 The boat cannot exceed a weight of fifteen (15) gross tons.
- 6.1.4 Boat must use one inboard diesel engine.
- 6.1.5 Boat to be designed to ISO category C operational requirements.
- 6.1.6 Maximum speed: not less than 20 knots in calm conditions.
- 6.1.7 Endurance: 20 knots speed for 6.0 hours in calm conditions.
- 6.1.8 Cruising speed: 19 knots
- 6.1.9 Range: 140 nautical miles with 10% reserve at 20-knot minimum speed.
- 6.1.10 Be able to operate fully in depths of 3.0 meter and be capable of basic maneuvering in depths of 2.0 meters.

### **6.2 STEERING**

- 6.2.1 Capable of steering 15° from heading, in Beaufort Sea State 6, with wind and seas from any direction.
- 6.2.2 Capable of turning 360 degrees port and starboard in forward and reverse at 3 knots in Beaufort 4 Sea State 4.
- 6.2.3 Capable of turning in its own length in Beaufort 4 Sea State 4 at 5 knots.

### **6.3 BEACHING**

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

### **6.4 GROSS TONNAGE**

- 6.4.1 Tonnage, in accordance with TP 13430 Part 3, must not exceed 15.00 GT

### **6.5 ENVIRONMENTAL CONDITIONS**

- 6.5.1 Capable of operating day or night in the following conditions:
  - 6.5.1.1 Average ambient air temperature range: -15° C to + 30° C.
  - 6.5.1.2 Average water temperature: 0° C to +20° C.
  - 6.5.1.3 Wave heights up to 3.4 meters (Beaufort Sea State 6).
  - 6.5.1.4 Wind speeds of 30 knots maximum.

6.5.1.5 Boat operates in freezing spray or freezing rain with accumulations of up to 6.0 mm while maintaining stability while allowing for safe transit in Beaufort force 3.

## **6.6 NOISE LEVELS**

6.6.1 Sound levels must be evaluated in accordance with Maritime Occupational Health and Safety Regulations for Canada, Provincial regulations for New Brunswick and measured in accordance with Health Canada regulations for sound surveys.

6.6.2 Working deck, maximum 90 dB decibels while making way at cruising speed.

## **7.0 VESSEL CONSTRUCTION**

### **7.1 HULL**

7.1.1 Hull, decks and deck housings must be constructed of glass reinforced plastic in accordance with TP 1332 requirements.

7.1.2 The hull must be of a one piece molded construction, based upon an existing hull of proven service. The overall scantlings must be designed for the intended purpose of the boat. The hull must be reinforced with floors, stringers, decks and bulkheads of molded fiberglass as appropriate for the boat's intended purpose. In particular the flexural stiffness of the hull panels must be adequate to eliminate deflection due to wave loads experienced in the boats operational area.

7.1.3 The hull layup is to be clearly stated in the proposal, including components which are to be heavily fiber glassed into the hull and integrated with the hull.

7.1.4 Main floors are to be molded fiberglass sandwich core construction using proper coring material and incorporated non slip surface molded in the gel coat.

7.1.5 The hull and deck areas experiencing local load or abrasion, such as the trap hauler mount, must be reinforced. The reinforcement of such areas must not involve the penetration of the gelcoat with mechanical fastenings. Hull area at hauler station to be protected by extra layers of fiberglass. Area to be covered must be at least 61cm ahead of the davit and minimum 122cm aft of the davit.

7.1.6 To protect the boat when coming alongside docks or other boats, rubbing strakes must be installed. Two set of rubbing strakes must be installed. Running along the gunnel from bow to transom on both port and starboard sides, D- type rubbing strake installed on aft section, port and

starboard, under the last 2 free ports to prevent water from washing across deck.

- 7.1.7 All exterior hull appendages, guards, strakes etc. must be faired into the hull to reduce the chance of materials, ropes, wire, etc. from fetching up
- 7.1.8 All structures and components (hull, deck, console, seating, etc.) must be of sufficient strength to withstand the lateral and vertical impact loading that equates to the conditions of the operational profile and mission requirements when in a Maximum Load condition per builder's plate.
- 7.1.9 Hull shape must not impede water flow to the propulsion units and must direct spray and waves away from onboard personnel.
- 7.1.10 Watertight and Tank Bulkheads: The hull design must be such that it meets all TCMS requirements for stability.
- 7.1.11 Transducer mounting brackets must be installed at the transom on the port and starboard sides.

## **7.2 DECK**

- 7.2.1 The craft will be built to section 8 of this specification.
- 7.2.2 Platform and Compartments will be made of glass reinforced plastic.
- 7.2.3 The platform will be covered with free-draining anti-slip mats as per 8.2.14.

## **7.3 PAINTING AND CORROSION PROTECTION:**

- 7.3.1 GRP components must have a colored gel-coat finish (DFO Grey two toned: RAL7042)
- 7.3.2 All rough edges and sharp angled corners must be rounded and ergonomically adapted.
- 7.3.3 Fiberglass components must have a colored, gel-coat finish on all exterior surfaces. Gel-coat to be applied at the manufacturers recommended film thickness. Finish color(s) as per boat particulars. All non-painted exposed aluminum must be free of cosmetic blemishes, including all construction marks, scratches, gouges and stains.
- 7.3.4 The bidder's proposal must describe the topcoat color system and schedule for all surfaces consistent with construction materials used in the patrol boat. The anti-fouling coating must be of non-copper and non-Tributyl Tin (TBT) type.
- 7.3.5 All walking surfaces including the working deck, gunwhale deck, and the steps from the wheel house to the cabin must be made non-skid for safety during operations. Methods employed to make walking surface non-skid must be detailed in the Bidder's proposal. The standard color of the hull, deck, collar and console of the boat must be DFO Slate Grey (RAL7042). All exposed aluminum surfaces must be matte black and outer surfaces of cabin must be grey.
- 7.3.6 Hull anode must be provided to fit the proper length of the boat and the electronics on the boat.

7.3.7 Prior to delivery, the Contractor must ensure that all non-painted exposed surfaces are free of cosmetic blemishes, including all construction marks, scratches, gouges and stains.

## **7.4 VIBRATION**

- 7.4.1 All components must be mounted on isolation mounts to minimize the effects 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.
- 7.4.2 Mounts for movable components, including items moved for stowage, towing or transport must be provided with resilient material as necessary to prevent rattling.
- 7.4.3 Loosening of fasteners under vibration must be prevented by the use of self-locking fasteners.

## **8.0 VESSEL OUTFITTING**

### **8.1 HULL OUTFITTING**

#### **8.1.1 MOORING**

- 8.1.1.1 The post must be a cruciform bollard, suitable for towing the boat at a speed of 5 knots in calm water with zero degrees of heel or trim in the fully loaded condition noted in section 5.1.6.
- 8.1.1.2 Towing nav light must be fitted to the wheelhouse as per Collision Regulations requirements
- 8.1.1.3 The bow post must be located to be easily reachable by a single crewmember stationed onboard at the bow.
- 8.1.1.4 The bow post must be located to not allow the towline to damage the boat or causing undue chafing of the towline.

### **8.2 DECK OUTFITTING**

#### **8.2.1 HANDRAILS**

- 8.2.1.1 Handholds must all be of a minimum size of ¾" (19mm) schedule 40 pipe.
- 8.2.1.2 Handholds must be installed on the platform

#### **8.2.2 GRAB HANDLES**

- 8.2.2.1 Handholds must be of minimum size of ¾" (19mm) sch. 40 pipe.
- 8.2.2.2 Boat must be fitted with grab rails with a minimum of two vertical hand rails on back of the wheelhouse aft bulkhead, both side and in a 30cm minimum in length
- 8.2.2.3 The boat must be fitted with a Stainless steel bow rail of 45cm in height starting from the back port side of the wheelhouse and ending on the starboard back side of the wheel house.
- 8.2.2.4 Location to be approved at the contract award.

#### **8.2.3 DOCKING CLEATS/TIE-DOWNS**

8.2.3.1 There must be minimum 2 tie up points per side along the gunwale with 2 forward, 2 aft on transom corners.

#### 8.2.4 CABIN ARRANGEMENT

8.2.5 The layout of the console and/or cabin must take into account ergonomic considerations, with easy viewing and access to all critical instruments and controls. The cabin must be located as far forward as possible, maximizing the aft deck working space. Appropriate secured accessible stowage and/or mounting locations for all specified and/or required safety equipment including, lifejackets, flare and fire extinguishers must be maximized. The cabin deck to be covered with anti-fatigue matting.

8.2.6 The finished cabin deck head height must be a minimum of 214cm from the main deck.

8.2.7 The cabin must be sized to accommodate and provide seating for a four (4)- person crew. The cabin must be fully enclosed with access through a sliding door in the aft bulkhead. The cabin must be such a design that the operator will have a unobstructed view from directly forward to 22 ½ degree abaft the beam on the port and starboard sides. Visibility as detailed above is full 360 degree from large marine safety glass windows in front, sides and rear of the wheelhouse.

8.2.8 Seating arrangements for one (1) crew must be a swinging post with a removable seat for the driver and for the three (3) passengers a bench with cushion with a table to be able to function as a chart or working station while the vessel is underway. The table must be a least of a minimum of 85 cm in length and a minimum of 60 cm in width, and the bench must be at least at a minimum of 40 cm for ample seating space. The table and the bench must be constructed of GRP material. There must be an accessible power port at the table to enable use of a laptop computer.

8.2.9 A marine head is to be contractor supplied and installed in the cabin. Manual marine grade toilet or equivalent, privacy bulkheads, door, vent and light. A holding tank with easy access pump out is to be installed. Supply water to the toilet must be fitted with an easily accessible shut off valve. A door is to be installed for privacy. Sewage system and capacity must meet Transport Canada : Vessel Pollution and Dangerous Chemicals regulation section 90(1). The water closet space must be a minimum of 90 cm by 110cm. A door must be fitted to the water closet to allow for privacy while in the closed position. The door must be fitted with a locking mechanism on the inside(toilet area) of the door to allow the door to be locked in the open or closed position.

8.2.10 The helm position must be fitted on the starboard side, consisting of a steering wheel attached to the console, engine control must be at the starboard side of the steering wheel, control must conform to engine manufacturer's recommendations for commercial use. The console must be installed in such a way as to enable the operator to use the steering wheel and the engine control while in a seated position, and able to see the gauges and installed console electronics in the seated position. The

console must be a minimum of 76 cm in width and must be in a L shape and the L shape must extend a minimum of 40cm to accommodate electronics. The L shape must be on the port side of the console.

#### **8.2.11 CABIN REQUIREMENTS**

- 8.2.11.1 The cabin must be sized to accommodate and provide seating for a four (4) person crew.
- 8.2.11.2 The cabin with cuddy must be fully enclosed with the following access points:
  - 8.2.11.3 One (1) side sliding weathertight door on the aft cabin bulkhead, which slides to port. The operator's aft visibility must not be obstructed when the door is in the closed or secured position. The door must be equipped with a window made from film-lined safety glass at a minimum to permit good visibility aft when the door is closed. The door must have a raised sill with a clear opening of not less than 90cm wide and an effective height of 198cm. The door must be capable of being locked in the open position and fitted with a locking arrangement for security purposes ;
  - 8.2.11.4 One (1) interior sliding door for access from main wheelhouse to the cabin;
  - 8.2.11.5 One (1) watertight hinged emergency escape hatch in cabin roof of a hinged type "Bomar" or equivalent polycarbonate, sized to meet TCMSB requirements for egress; and,
  - 8.2.11.6 The cabin must be of such a design that the operator must have an unobstructed view from directly forward to  $22 \frac{1}{2}^{\circ}$  abaft the beam on the port and starboard sides. Cabin and cuddy must be heated such that the wheelhouse and cuddy cabin are heated and there is a means provided to reduce window fogging and icing. The Contractor must calculate the required size of the total space being serviced by the heater and use this measurement when ordering the system. The Contractor must install the system as per the manufacturer's recommendations.
  - 8.2.11.7 These windows must be equipped with window washers and defogging arrangements to ensure clear visibility. The window washer system must consist of a 12 VDC electric pump, interconnecting hoses, easily accessible fluid tank and operated by push buttons at the console at the helm position. The windshield wipers are to be activated individually by a switch –four (4) positions (stop-slow-fast-intermittent) – located at the helm.
  - 8.2.11.8 Diesel Furnace : Boat must be fitted with a diesel furnace such as Espar Airtronic D5 or equivalent, as a source of heat, sized for the boat design, with its own ductwork to forward windshield and connection to the existing system and connected to a fuel supply tank.

#### **8.2.12 STOWAGE**

- 8.2.12.1.1 All exterior stowage compartments must be lockable, secured by positive means and capable of being operated by gloved hands.
- 8.2.12.1.2 Hatches must not be installed where standing water can accumulate on the seal for any weathertight compartment.
- 8.2.12.1.3 Weather tight stowage for equipment must be provided in void spaces under deck and inside the console where practical. Hatches for storage compartments should be as large as possible and the latches for storage compartment must be flush mounted or not interfere with passage of personnel onboard when closed
- 8.2.12.1.4 Stowage for equipment must be provided in void spaces within the gunnels, these are not required to be weathertight.
- 8.2.12.1.5 Main Engine : Access to the engine compartment must be through a flush mounted hinged watertight hatch oversized to enable main engine removal. Hatch to be fitted with hydraulic assist rams for ease of opening and closing. The hydraulic rams must be mounted so as not to obstruct engine maintenance, overhaul or removal. Hydraulic rams must be oversize to prevent premature closure while fully open, but easily closed by one person. The hatch must be lockable in the fully closed position by a means of a flush mounted mechanism and water tight. The hatches must be fitted with flush mounted handles, allowing space for a gloved hand, for ease of opening. The deck design must allow for space between the engine top and the underside hatch, while in the closed position to comply with manufacturer recommendations.
- 8.2.12.1.6 Aft Deck : A watertight access hatch must be fitted to the aft main deck to allow access to the steering space, the hatch must be flush mounted, the hatch must be positioned in the aft deck location, center line of the vessel. The hatch must be a minimum of 76 cm by 106 cm in size to allow easy access to the steering space compartment. The hatch must be of 316 stainless steel or equivalent.
- 8.2.12.1.7 Two (2) watertight hatches must also be fitted on the aft main deck to allow storage space for equipment, the hatch must be flush mounted. The hatches must be a minimum of 91cm by 121cm. The location of the hatches will be determined at contract award

### 8.2.13 FLOOR COVERING

- 8.2.13.1 Floor cover must meet all Transport Canada regulations and suitable for marine use.
- 8.2.13.2 All walking surfaces must be made non-skid for safe operation in all sea conditions. This must include foredeck. Wheelhouse top, cuddy cabin top and gunwhales.

#### 8.2.14 HELM STATION

- 8.2.14.1 The boat must be equipped with a central helm position located in the cabin, starboard side.
- 8.2.14.2 Helm will be designed to primarily be operated from the seated position.
- 8.2.14.3 Wind screen must allow for an unobstructed view.
- 8.2.14.4 The dash console must be constructed and designed to high strength specifications in order to withstand the acceleration and loads of the vessel, operator and 3 crew while in service conditions.
- 8.2.14.5 The helm will incorporate a steering system that is capable of handling the installed horsepower of the vessel. The engine controls are to be supplied by the engine manufacturer and designed for the installed power units.
- 8.2.14.6 All switches must be of ergonomic design and located such that they can be accessed easily, discernible at night and are not obstructed.
- 8.2.14.7 Contractor must install motor trim gauges, trim tab gauges and fuel level gauge(s).
- 8.2.14.8 All light switches and circuit breakers must be located within easy reach of the helmsmen's position.
- 8.2.14.9 All electrical switches that are installed must be of marine grade and water resistant.
- 8.2.14.10 All gauge back lighting must be dimmable and controlled by a single dimmer switch located at the helm position.
- 8.2.14.11 The decking must be anti-skid tread self-draining matt for stable footing.

#### 8.2.15 AFT DECK

- 8.2.15.1 Stern free ports screened over to prevent stern mooring lines being washed overboard.
- 8.2.15.2 The minimum length for the aft working deck must be 7m from the wheelhouse to the transom. Minimum width inside the gunnels must be from a minimum of 4m.
- 8.2.15.3 The gunnel on the aft working deck must be at a minimum width of 0.285M.
- 8.2.15.4 **Lobster Equipment** The Contractor must supply and install a Hydraulic Hauler: The boat must be fitted with a fixed 35 cm Hydro-Slave hydraulic lobster trap hauler. The system must provide power through a demand pump and consist of the following as a minimum :
- 8.2.15.5 Direct drive hydraulic pump. Tank capacity sized to accommodate hauling gear weighing 225kg, from a depth of 100 fathom without overheating the system.
- 8.2.15.6 Hull structure in way of the hauler must be designed and constructed to withstand the local force/stress caused by the hauler operating under maximum operational conditions.

- 8.2.15.7 Hauler must be stamped with max kg load capacity, permanent and clearly visible to the operator of the hauler.
- 8.2.15.8 Stainless Steel hydraulic fluid tank with baffles with sufficient capacity to prevent overheating
- 8.2.15.9 Screw-on type hydraulic filter
- 8.2.15.10 Remote and local tank capacity gauge
- 8.2.15.11 Pump indicator lights, located at the helm position
- 8.2.15.12 Shut off to prevent drainage at all points necessary to replace or repair parts.
- 8.2.15.13 The hauler must be in stainless steel with a fairleads roller in front of the hauler.
- 8.2.15.14 The Control handle/valve of the hauler will need to be next to the hauler and the hauler will be located astern of the boat on the starboard side. Exact location and design of the hauler to be determined at contract award.
  - 8.2.15.14.1 Boats being delivered to the Maritimes region will require a different location for the lobster trap hauler, which will be presented in the bid, as well as no fair head roller is required. See Annex \_ for complete chart of requirements between Gulf and Maritimes Regions.
- 8.2.15.15 **Crab Equipment**
- 8.2.15.16 The boat must be fitted with a 35 cm fixed hydro-slave hydraulic snow crab pot hauler and a stainless steel hydro-slave block at the end. The system must provide power through a demand pump and consist of the following as minimum :
  - 8.2.15.16.1 Direct drive hydraulic pump. Tank capacity sized to accommodate hauling gear weighing 225kg, from a depth of 100 fathom without overheating the system
  - 8.2.15.16.2 Hull structure in way of the hauler must be designed and constructed to withstand the local force/ stress caused by the hauler operating under maximum operational conditions.
  - 8.2.15.16.3 Stainless Steel hydraulic fluid tank with baffles with sufficient capacity to prevent overheating.
  - 8.2.15.16.4 Screw-On type hydraulic filter
  - 8.2.15.16.5 Remote and local tank capacity gauge.
  - 8.2.15.16.6 Pump indicator lights, located at the helm position.
  - 8.2.15.16.7 Shut off to prevent drainage at all points necessary to replace or repair parts.
  - 8.2.15.16.8 The control handle/valve will need to be close to the door of the wheelhouse. The location will have to be determined at the contact award.
  - 8.2.15.16.9 The design of the Snow crab pot hauler will need to be approved at the contract award.
  - 8.2.15.16.10 A Hydraulic cylinder with a valve and control handle will be attached to the snow crab pot hauler to enable movement of the hydro-slave block outside of the deck to the starboard side for

hauling and retrieving snow crab pots to the deck. The control handle and valve must be located near the starboard side, wheelhouse door. Exact location to be determined at the contract award.

- 8.2.15.16.11 Where the snow crab hauler will be situated they will need to have a reinforced layer of GRP to protect the hull of the boat of the hit of the snow crab trap when coming in on board.
- 8.2.15.16.12 There is no requirement for Crab Equipment for maritimes vessels, as noted in Appendix \_
- 8.2.15.17 **Marine Crane:** The boat must be equipped with a hydraulic marine crane for lifting and moving equipment/trap on the deck on the boat and to load the equipment/trap from the deck of the boat to a trailer when needed.
  - 8.2.15.17.1 The hydraulic marine crane must be a HIAB CLX-029-4 equipped with a winch or equivalent must be installed on aft deck of the boat, on the port side at a minimum of 120 cm from the wheel house. Exact location to be determined at the contract award.
  - 8.2.15.17.2 The hydraulic system for the marine crane must be equipped with a hydraulic pump and system to be able to move equipment and trap without overheating. The hydraulic system for the marine crane will be combined with the snow crab hauler. If combined, tank capacity must account for work of both systems to prevent overheating.
  - 8.2.15.17.3 Hull structure in way of the marine crane must be designed and constructed to withstand the local force/stress caused by the marine crane operating under maximum operational conditions.

### **8.3 NAVIGATION EQUIPMENT**

#### **8.3.1 General**

- 8.3.1.1 The contractor must produce a template outlining the location of the equipment for approval by the Technical Authority before installation work commences.
- 8.3.1.2 Progressive dimmers of marine grade must be fitted wherever practicable. The dimmers must have the capability of dimming the engine monitoring gauges (if they are not dimmable by the manufacturer's controls) and other indicators separate from compass illumination.

#### **8.3.2 MAGNETIC COMPASS**

- 8.3.2.1 Magnetic Compass: The Contractor must provide and install a direct read compass complete with a light equipped with its own dimmer switch. The Ritchie Helmsman 70 series meets this requirement.
- 8.3.2.2 Non-white (red or green) lighting connected to the 12 volt DC electrical system.

8.3.2.3 System must be supplied with its own waterproof marine-grade dimmer switch.

8.3.2.4 Compass must be adjustable for deviation.

### 8.3.3 HORN

8.3.3.1 The Contractor must supply and install an electric horn that meets the requirements of the Collision Regulations. In compliance with the Collision Regulations, Rule 32, must be audible at 0.5NM. Must be installed on the exterior of the console facing forward and operated by a spring loaded switch at the helm station. Either signal tone or Ongaro or equal.

8.3.3.2 The horn must be operated by a spring-loaded switch located in the operators' console.

### 8.3.4 NAVIGATION ELECTRONICS

8.3.4.1 The Contractor must supply and install the following electronics All cable penetrations must pass through watertight glands.

8.3.5 The following must be contractor supplied and fitted :

8.3.6 The system provided must be equipped with licensed chart card information

8.3.6.1 Kenwood Stereo Receiver CD FM/AM Front USB and Aux In with two (4) 6.5" Marine waterproof speaker (2) inside and (2) outside or equivalent

8.3.6.2 (2) ICOM M604 VHF with DSC capabilities radio. Complete with loud hailer/intercom function plumbed to radio. VHF must be connected to GPS via NMEA to complete DSC capabilities and combined with antenna.

8.3.6.3 UNIDEN PRO510 XL mobile CB radio combined with antenna or equivalent.

8.3.6.4 Whelan 295SL100 Loud hailer/Siren complete with speaker or equivalent.

8.3.6.5 SIMRAD AP48 autopilot with autopilot computer module or equivalent.

8.3.6.6 Hondex HDX 121 12.1`` Chartplotter and sounder system, with remote and transducer or equivalent ( back-up system)

8.3.6.7 Furuno NavNet TZtouch 3 TZT19F Multi function display with 19" with sunlight viewable color display or equivalent.

8.3.6.8 Furuno 4 ft Open Array NXT Radar Antenna with 15m cable, DRS12A-NXT model or equivalent and compatible with model identified above

8.3.6.9 Furuno DFF1-UHD Fish Finder module or latest model or equivalent and must be compatible with model identified above

8.3.6.10 Furuno Timezero module or latest model of equivalent and must be compatible with model identified above.

8.3.6.11 Furuno 4.3" GPS Navigator model GP-33 or equivalent.

8.3.6.12 All charts for the equipment stated above must be the latest version available must be compatible with the system installed.

8.3.6.13 Seakeeper 6 roll preventive system on the boat or latest model or equivalent.

### 8.3.7 Work Lighting

8.3.7.1 Forward work lighting:

8.3.7.1.1 LED Forward facing lighting adjustable vertically

8.3.7.1.2 LED Side facing lighting adjustable vertically

8.3.7.1.3 All lighting will be mounted to the netting platform and shielded from impacts and weather resistant

8.3.7.1.4 Vision X Xmitter Low Pro Extreme LED light bar or equivalent. Approximately 16" in length.

8.3.7.2 Four (4) Spot lights:

8.3.7.2.1 Forward Adjustable LED lighting

8.3.7.2.2 Aft Adjustable LED Stern lighting

8.3.7.2.3 Vision X Multi-LED 6.7" CG2 LED light Cannon or equivalent.

8.3.7.2.4 Additional lighting

8.3.7.2.4.1 Three pairs, six in total, Red/White light courtesy decklights flush mounted, Platform mounted, midships and aft near the operator's console.

## 8.4 LIFESAVING AND EMERGENCY EQUIPMENT

8.4.1 The following items must be provided with appropriate stowage / securing arrangements (as appropriate for each item). All CFM fittings must be heavy duty, corrosion resistant fittings. All items must be readily accessible. The Contractor will supply and outfit the boat with the following emergency equipment:

8.4.1.1 Fire extinguisher (Class 5BC, marine type or better);

8.4.1.2 Boat hook, 8 feet long (retractable);

8.4.1.3 Two paddles secured in gunwales;

8.4.1.4 Anchor (Fortress model FX-7 or equivalent) and line with chain;

8.4.1.5 Drogue sea anchor and line

8.4.1.6 Transport Canada Marine emergency first aid kit in a waterproof container

8.4.1.7 Air horn and whistle

8.4.1.8 Five 25-foot 3/8" braided Samson mooring lines

8.4.1.9 One water proof LED flashlight w/ spare batteries and bulb;

8.4.1.10 One pealess whistle;

8.4.1.11 Two buoyant rescue quoits attached to 30m of buoyant line;

8.4.1.12 TCMS approved radar reflector

8.4.1.13 ACR RLS 406MZ beacon (EPIRB) with hydrostatic release, installed.

8.4.1.14 Fire axe on board / Fire bucket on board with mounting brackets installed.

- 8.4.1.15 A 6 person life raft with Hammar hydro release or equivalent with the mounting bracket installed.
- 8.4.1.16 For boats being delivered to the Maritimes region a 8person life raft will be required rather than 6 person mentioned above. See Annex \_
- 8.4.1.17 Twelve (12) TCMSB approved flares, among which at least 6 of which to be type A, B or C.
- 8.4.1.18 The contractor must ensure all Transport Canada mandated safety equipment is installed or provided with the vessel outside of the equipment list provided. All additional items must be presented to Technical Authority prior to purchase.

#### **8.4.2 Fire suppression:**

- 8.4.2.1 The engine space must be fitted with an approved fire suppression agent designed for the engine space as per TP1332. The design criteria and volume calculations must be provided in the technical section of the manuals. FM200 is a suitable fire suppression agent or equivalent.
- 8.4.2.2 Fire suppression system must be manually activated. Activation pulls must be located inside the wheelhouse near the aft door.
- 8.4.2.3 Manual dampers must be fitted to close air intakes and exhausts to the engine space
- 8.4.2.4 A heat rise detector must be installed within the engine compartment in accordance with TP1332, with audible and visual alarm at the control console.

## **9.0 SYSTEMS GENERAL**

### **9.1 PROTECTION OF CONTROLS**

- 9.1.1 All control cables, electrical wiring for the motor and the steering hydraulic hoses are to be installed in UV resistant plastic pipes (LOOM) or equal. These pipes are to be installed in such a manner as to ensure that no cable is immersed in water.

### **9.2 PROPULSION**

- 9.2.1 Diesel inboard motor with shaft and propeller. The boat must be fitted with a propulsion system consisting of a diesel engine, transmission, shaft, propeller and the controls. The propulsion system must be installed under the aft working deck in accordance with the manufacturer's recommendations. The arrangement and capacity must be in accordance with the engine manufacturer's instruction. Clearance and access to machinery and equipment must be incorporated into the boat design to allow unobstructed access to conduct routine inspections and servicing of the machinery and equipment.
- 9.2.2 **DIESEL ENGINE REQUIREMENT** : Marine diesel engine, with after cooler having a horsepower between 850hp to 999hp and able to sustain cruising speed at 80% power. Volvo Penta D13-900 or equivalent model with access to locally available parts and service within the area of

operation within a 48hr period. Engine must be resilience mounted to reduce vibration.

- 9.2.2.1 The electrical system for the engine mounted electrical accessories must be ungrounded two wire-insulated feed and return.
- 9.2.3 RUN-IN Operation : The new engine must be installed and operated in accordance with the engine manufacturer's recommendations. The use of engine manufacturer's accessories and equipment is required. The contractor must not use equipment and components and or operate the engine in a way that would void the engine manufacturer's warranties.
- 9.2.4 ENGINE COOLING SYSTEM : The engine must be salt water cooled via a closed loop system through a marine heat exchanger.
- 9.2.5 MARINE TRANSMISSION : Boat must be fitted with a marine grade transmission, cooled by direct seawater through a marine heat exchanger and temperature sending units fitted with remote readouts on the console. Gear must be fitted with Forward, Neutral and reverse gears. Marine transmission model must be fully compatible with the selected marine engine and shaft.
- 9.2.6 MARINE SHAFT AND PROPELLER: Boat must be fitted with a marine grade shaft that must be fully compatible with the engine and the transmission and the propeller size must the fitted size for the boat and the motor without losing any RPM while at top speed.
  - 9.2.6.1 The shaft is to be outfitted with a DURAMAX MARINE propeller shaft seal system or equivalent.
- 9.2.7 PROPELLER LINE CUTTER : The shaft must be fitted with a line cutter such as Piranha Dual line cutters or equivalent.
- 9.2.8 All engine monitoring alarms and cabling must be shielded.
- 9.2.9 Transmission monitoring and alarm system:
- 9.2.10 The marine transmission must be fitted with sensors connected to an audible and visual alarm monitoring system, indicating low lube oil pressure and high temperature. The system must be connected to a gauges at the wheelhouse console helm position for monitoring. All transmission monitoring, alarm and electrical cabling must be shielded.
- 9.2.11 PIPING SYSTEM: Where flexible connections are required for steering and fuel systems, suitable hose with permanently crimped, detachable reusable type fittings must be used.
  - 9.2.11.1 Fittings and clamps must be stainless steel. Bolts used in all fittings must be Type 316 stainless steel unless used underwater, bronze fittings where silicon bronze will be used.
  - 9.2.11.2 Bilge pump discharges must have check valves at the through-hull, to prevent back flow into the hull. Smooth bore hoses and double clamping to be used in bilge discharges.
  - 9.2.11.3 Through-Hull fittings made from UL approved Marelon for penetrations located above the water line is allowed. For example: Bilge discharges.
- 9.2.12 The Contractor must supply and install the controls and verify they are installed and operate in accordance with the engine manufacturer's

recommendations. The use of engine manufacturer's approved accessories and equipment is required.

9.2.13 Contractor must supply and install control cables, harnesses, propellers, and all other components.

9.2.14 Equipment and components must not be used or trials performed on the engine that would, in any way, void the engine manufacturer's warranties.

#### **9.2.15 VERIFICATION OF INSTALLATION**

9.2.15.1 Installation of the motor, controls, lubrication and fuel systems, manometers, battery connections, must be verified by an authorized technician. The motors are to be started by the authorized technician, who must provide a written report with a copy provided to the Technical Authority.

9.2.15.2 All control cables, electrical wiring for the motor and the steering hydraulic hoses are to be installed in pipes. These pipes are to be installed in such a manner as to ensure that no cable is immersed in water.

#### **9.2.16 ENGINE BREAK-IN**

9.2.16.1 The Contractor must respect the engine manufacturer's break-in procedures and must have the appropriate authorized technician present during the break in period to resolve any issues.

9.2.16.2 Engines must have a minimum of 18 hours running time prior to delivery.

### **9.3 PROPELLERS**

9.3.1 One propeller for the engine and two spares must be provided by the Contractor (CFM);

9.3.2 Propeller(s) must be properly sized and installed by the Contractor;

9.3.3 Contractor must inform the Technical Authority of appropriate pitch and diameter to meet the performance requirements as determined by the Contractor prior to purchasing the propellers.

9.3.4 The propellers must be of stainless steel.

### **9.4 PROPULSION CONTROLS**

9.4.1 Bidders must provide the Technical Authority a mock-up design of the proposed dash and instruments for approval prior to construction.

9.4.2 Propulsion control system installation must include engine controls located on the starboard side of the helm console.

9.4.3 Controls must be ergonomically operable when the operator is in a standing position. The controls must conform to engine manufacturer's recommendations and must not interfere with any of the other controls;

9.4.4 All control cables must be Contractor supplied;

- 9.4.5 All gauges must be backlit with an adjustable dimmer. Lighting for gauges and lighting for compass must use separate dimmers.
- 9.4.6 Thruster: The boat must be equipped with a hydraulic bow thruster that is sufficient to move the boat away from the dock, to be operated by a joystick installed at the helm station. The location of the hydraulic thruster to be determined at the contract award.
- 9.4.7 Kill Switch – The engine installations must incorporate an automatic shutdown feature (kill switch) that must be mounted near the ignition switch. Two spare cords must be provided with each boat.
- 9.4.8 All gauges should be located in a position so as to provide an unobstructed view to the helm position.
- 9.4.9 Contractor to supply and install all digital gauge packs and associated equipment.
  - 9.4.9.1 Tachometer;
  - 9.4.9.2 Water pressure gauge;
  - 9.4.9.3 Hour meter;
  - 9.4.9.4 Voltmeter;
  - 9.4.9.5 Fuel gauge;
  - 9.4.9.6 Battery condition/ voltage meters for each battery;
  - 9.4.9.7 Tilt/trim gauge;
  - 9.4.9.8 Oil pressure gauge, if applicable;
  - 9.4.9.9 Oil level gauge;
  - 9.4.9.10 Cooling water temperature gauge;
  - 9.4.9.11 Water Pressure gauge; and,
  - 9.4.9.12 Note: Bidders must design the console to incorporate the gauges and instruments they recommend for effective operation of the boat.

## **9.5 ALARM MONITORING SYSTEM**

- 9.5.1 Alarm monitoring system for the engines must include the following alarms:
  - 9.5.1.1 Oil pressure alarm;
  - 9.5.1.2 Coolant flow alarm, if applicable; and
  - 9.5.1.3 Engine overheat/high temperature alarm.

## **9.6 STEERING**

- 9.6.1 Steering system must meet the operational requirements details.
- 9.6.2 Hydraulically operated rudder with a dual cylinder hydraulic power steering with a steering wheel at the helm position must provide the steering control. Steering system must be remote hydraulic with self-contained oil reservoir.
- 9.6.3 Hydraulic hoses must be sufficient size and length to prevent pulsing. Hoses must be suitable for use in an exposed marine environment complete with stainless steel fittings.
- 9.6.4 All hydraulic steering hoses must be routed below deck in such a manner that they are protected from physical damage and so that there are no pinch or chafing points on the hoses.

- 9.6.5 The steering connection must be of robust construction, to eliminate fore and aft or lateral movement of the fixture.
- 9.6.6 Steering systems must be hydraulic with a maximum of 3.5 turns from hard over to hard over.
- 9.6.7 The Steering wheel must 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.

## **9.7 FUEL SYSTEM**

- 9.7.1 The complete fuel systems must be supplied, installed, labeled and tested in accordance with section 7 of TCMSB TP 1332 and ABYC specifications.
- 9.7.2 The fuel system must be fitted with a Ensure 2 racor water trap and filter arrangement complete with priming unit and changeover valve. Valve must be fitted between the fuel tank and engine supply. Filter system must be sized to meet the fuel flow rate required for the maximum engine horsepower achievable. All fuel valves must be readily accessible and labeled.
- 9.7.3 The fuel tank(s) must be fitted with an active level/capacity sensor connected to a remote gauge at the helm position and a manual sounding arrangement.
- 9.7.4 The tank(s) may be fabricated of composite semi-rigid materials, such as GRP, aluminum or stainless steel. If non-metallic they must be in compliance with CEPA and approved by the TA. If aluminum or stainless steel they must be marine grade material as required by TCMSB standards. The fuel tank must be fitted with approved fuel lines and plumbing throughout as per TP1332.
- 9.7.5 Fuel filling must be located in an accessible watertight/vented compartment to catch fuel from over filling or blow back, so that the fuel does not enter the boat as per TCMSB TP 1332 requirements.
- 9.7.6 All fuel tanks are to be equipped with an anti-siphon valve installed on each suction
- 9.7.7 Fuel tank vent pipes are to be equipped with a non-return check valve
- 9.7.8 Tank or fuel tanks must have a fuel capacity to meet 6.1.9, range of 140 nautical miles with 10% reserve at 20 knot minimum speed. All tank connections must be readily visible for inspection purposes, without having to remove any obstructions.
- 9.7.9 Fuel System must be air tested to 0.2 bar (3.0 psi) and be labelled per the requirements of TP1332.
- 9.7.10 Arrangements must be provided for fuel tank, fuel lines, vents, fills, and on / off valves prior to being fitted on the boat.
- 9.7.11 There must be inspection hatches of minimum diameter of 200mm installed in the deck to allow access to the fuel pick-ups, (with the required 'demand anti siphon' valve at the tank if flow rates meet the manufacturer's requirement), vent, and fill connections, and tank level indicators.

- 9.7.12 Fuel fills to be flush or recess mounted on the port gunwale, fore or aft and must be properly labelled and lockable.
- 9.7.13 Below deck fuel tank compartment must have both passive and powered ventilation system installed with clearly labelled switch at the helm.
- 9.7.14 Valves and fittings used in the fuel system must be of non-corroding materials, and all fuel valves should be readily accessible and labelled.
- 9.7.15 Fill pipes must be designed with a catch-all to catch fuel from over filling or blow back, so that the fuel does not enter the vessel as per TCMSB TP 1332 requirements and provided with drains and plugs to facilitate draining of water.
- 9.7.16 Remote fuel shutoff valves must be fitted, remote from the fuel tanks and engine compartments and protected against chafing and wear.
- 9.7.17 Fuel maintenance valves must be installed at filter/manifold system and be easily accessible to vessel operators.
- 9.7.18 All fuel tank(s) are to be equipped with an anti-syphon valve installed on each suction.
- 9.7.19 Fuel tank vent pipes are to be equipped with a non-return check valve.

## **9.8 ELECTRICAL SYSTEM**

- 9.8.1 The electrical system design, component selection and installation must be in accordance with Canadian Standards Association C22.2 NO. 183.2-M1983 (R1999) "Standards for D.C. Electrical Installations on Boats", and TP1332 and/or ABYC 'E' as referenced by TP1332. All electrical equipment and hardware must be installed in accordance with the manufacturer's specifications.
- 9.8.2 The boat must be fitted with an electrical system complete in all aspects, to provide and distribute the following power supplies :
  - 9.8.3 12 Volts DC above ground (insulated from ground throughout)
  - 9.8.4 120 Volt AC Single Phase from shore supply
  - 9.8.5 120 Volt AC single phase from auxiliary engine of a minimum of 9KW, KOHLER Marine generator 9EKOZD or equivalent - the auxiliary engine must be diesel fueled.
- 9.8.6 All electrical appliances, components, panels, wiring device and cabling must be approved for marine application, the cable type for the low voltage (12 VDC) systems must be in accordance with and installed in accordance with TP1332
- 9.8.7 All electrical receptacles, switches, and power panels must have labels using lamicaid plates indicating voltage and service. Ex : 120 VAC – W/H Light or 12 VDC Bilge pump.
- 9.8.8 All 120 Volts AC receptacles circuits must be provided with ground fault circuit interrupters.
- 9.8.9 All electrical switches are to be labelled
- 9.8.10 All fuses and circuit breakers are to be labelled

## **9.8.11 DC POWER SYSTEM**

- 9.8.11.1 One 12 Volt DC distribution breaker panel must be installed. The panel will be arranged so that it will function at sea and in port when boat is on shore power. Labeling must also be provided on the panel to indicate this feature.
- 9.8.11.2 Contractor must supply a breaker panel with minimum of 12 breakers and include 2 spare breakers for future expansion.
- 9.8.11.3 Breaker panel must be rated IP 67 or greater.
- 9.8.11.4 Twelve Volt (12V) DC distribution system must be provided to power the engine starting and boat service loads including:
  - 9.8.11.4.1 Navigation lights;
  - 9.8.11.4.2 Interior lighting and Exterior spot lighting;
  - 9.8.11.4.3 Navigational equipment, communications and instrumentation;
  - 9.8.11.4.4 Bilge Pumps and alarms;
  - 9.8.11.4.5 Communications,
  - 9.8.11.4.6 Auxiliary items
- 9.8.11.5 Generator can provide power to working loads including:
  - 9.8.11.5.1 Bow working lights
  - 9.8.11.5.2 Auxiliary charging system
  - 9.8.11.5.3 Aft deck equipment
- 9.8.11.6 All installed electrical equipment must be capable of operating simultaneously with any other fitted electronics equipment without causing interference to any electronic equipment or to the magnetic compass.
- 9.8.11.7 All installed electrical equipment must be located so that it is readily accessible for performing maintenance.

#### **9.8.12 AC POWER SYSTEM**

- 9.8.12.1 One 120 Volt A/C distribution panel must be installed. The panel will be arranged so that it will function at sea. 120 Volt AC single phase from auxiliary engine of a minimum of 5KW, KOHLER diesel Marine generator 5EFKOD or equivalent meet this requirement when power is needed. The installation must be in accordance with the manufacturer's instructions and must meet TCMSB regulations. The auxiliary engine must be arranged to distribute 120 VAC via a circuit breaker to three (3) duplex receptacles in the wheelhouse. Location to be determined at the contract award.
- 9.8.12.2 Generator and function described in 9.8.5
- 9.8.12.3 Additional three outlet weather resistant plugs per 9.8.15
- 9.8.12.4 Auxiliary charging system for all batteries onboard.
- 9.8.12.5 Method to use either a 15 amp 110V shore power connection or the onboard generator to power the auxiliary charging system. The systems must not be connected to the charging system at the same time.

#### **9.8.13 CABLES**

- 9.8.13.1 Cable Installation: Cables and conductors must be supported with clamps or straps at least every 18 inches on horizontal runs and every 14 inches on vertical runs. Cable runs in PVC fire retardant LOOM as deemed acceptable by TCMSB TP 1332 requirements.
- 9.8.13.2 The cables for all electrical distribution must be ample in size for the particular service and be marine grade tinned boat cable.
- 9.8.13.3 All cables to be labelled at both ends as well as on both sides of all watertight transits using water proof heat shrink or self laminating labels matching connection details as per the electric drawings and IEEE Standard 45.
- 9.8.13.4 Cables must be grouped into wiring harnesses wherever possible. All wiring harnesses must be routed below deck. All below deck cabling must be through conduit pipe.
- 9.8.13.5 Cabling / conductors passing through watertight boundaries, decks, bulkheads or other exposed surfaces must be installed such that watertight integrity of the structure is maintained. The cable entries into watertight enclosures must be made through watertight marine glands of a suitable size. All electrical equipment must be readily accessible for performing maintenance.
- 9.8.13.6 Cables and conductors must be supported with stainless steel clamps and cable ties at least every 18 inches on horizontal runs and every 14 inches on vertical runs.
- 9.8.13.7 Cabling / conductors passing through structures without watertight glands, must be protected against chafing by the use of abrasive resistant grommets.
- 9.8.13.8 Routing cables through foamed spaces must be avoided wherever possible.
- 9.8.13.9 Cables that must be routed through foamed spaces must be run in PVC conduit pipe. The pipe must be arranged in a manner that prevents water from becoming entrapped in the pipe.

#### 9.8.14 **BATTERIES, CHARGERS & SWITCHES**

- 9.8.14.1.1 Dual battery bank must provide power for engine starting and service power. The two-battery banks must be inter-switchable through heavy-duty selector switches, mounted in a recessed position, to allow the connection of either battery bank to the starting or service power system. Battery switches must be 4 position and have a 600 amps rating. The system must conform with engine manufacturer's specifications and TCMSB regulations. The battery bank must be secured in built-in battery boxes in accordance with Section 55(6) and (7) of TP127.
- 9.8.14.1.2 The charger must have fully automatic operation (float/trickle), has the ability to charge multiple gel cell batteries, automatic reset overload protection, and must have an indicator of charging function. The battery bank must be monitored by its own separate ammeter and voltmeter mounted in close

proximity to the helm position. Batteries must be marine grade gel type maintenance free to eliminate leakage, and a minimum 1000 deep-cycle cranking amps.

- 9.8.14.1.3 The battery bank must be arranged such that the batteries can be charged from engine mounted 170 amp alternator or by on board automatic static marine battery chargers.
- 9.8.14.1.4 The battery bank must be comprised of deep cycle batteries sized in accordance with TP127 – Article 55.9 and ABYC-Section E-9 to provide power to engine starting and other electrical devices described in this TSOR. Their reserved capacity must be as determined by the finalized load analysis. Batteries must be gel cell type.
- 9.8.14.1.5 The static battery chargers must be sized such that, without exceeding a safe charging rate, a completely discharged battery can be charged to 80% of its capacity within a period of ten(10) hours and be capable of simultaneously running the onboard 12 VDC requirements.
- 9.8.14.1.6 Battery bank must comply with section 19 of TP127
- 9.8.14.1.7 Shore power must be connected to an A/C distribution panel. This panel will supply the battery charger, engine heater, plus two spare circuits with separate breakers. Each A/C circuit must have its own breaker.
- 9.8.14.1.8 Battery switches must be recessed to prevent snagging or accidental switching.
- 9.8.14.1.9 Battery connections must be arranged to allow for cross connection of start and house batteries and for the charging by motors and shore power.
- 9.8.14.1.10 Battery compartments must be watertight and fitted with a suitable means of hydrogen venting to provide temperature moderation.

#### **9.8.15 OUTLETS & PLUGS**

- 9.8.15.1 Three (3) marine quality water resistant, covered 12V power outlets are to be installed onboard the vessel;
  - 9.8.15.1.1 One (1) on the dash console at the operators console
  - 9.8.15.1.2 One (1) Forward side of the Operators console
  - 9.8.15.1.3 One (1) Vertical face of the forward platform between access hatches.
- 9.8.15.2 Two (2) covered water resistant USB charging ports must be installed suitable located at the main helm position; BlueSea Water-Resistant Accessory Panels - 15A Circuit Breaker, 12V Socket, 2.1A Dual USB Charger meets the requirements of 9.8.8.2 and 9.8.8.1.1.
- 9.8.15.3 There must be three (3) 120 VAC power weather resistant receptacles installed at:
  - 9.8.15.3.1 One (1) in the cabin
  - 9.8.15.3.2 One (1) in the wheelhouse at helm station

9.8.15.3.3 One (1) in the wheelhouse accessible to the work table

## **9.8.16 LIGHTING**

### **9.8.16.1 Navigation Lights**

- 9.8.16.1.1 The navigation light fixtures must be of such a design as to resist the effects of vibration and moisture and must be provided with adequate protection from damage, which may occur, when lying alongside a boat or a pier.
- 9.8.16.1.2 All Navigation lights to be 12VDC and L.E.D. type bulbs.
- 9.8.16.1.3 All Navigation lights and light arrangements must meet TCMS regulations including COLREGS rules for vessels under 12M; Please note Rule 22, 23, Annex 1 Rule 2, 9 and 10.
- 9.8.16.1.4 One 12 VDC Blue flashing light in accordance with regulatory requirements for SAR Missions
- 9.8.16.1.5 Two 12 VDC exterior deck light that is mounted on the back of the cabin toward the aft deck must be supplied. M-Series LED light 6" diffused by RIGID or equivalent.
- 9.8.16.1.6 One 12 VDC exterior LED light facing forward to the bow mounted on the of the top cabin. The contractor must supply a 50 inches Combo Spot/Floodlight LED bar light facing toward the bow. M-Series LED light 50 inches Combo Spot/Floodlight by RIGID or equivalent.
- 9.8.16.1.7 All Navigation lights must be mounted so as not to interfere with vision of the operator.
- 9.8.16.1.8 Navigation lights must be permanently mounted with protected wiring and must be waterproof.
- 9.8.16.1.9 The fitting of a combined navigation sidelights forward is not acceptable.
- 9.8.16.1.10 All around mast /anchor light ratchet mast mounting is acceptable, and should be shielded to not interfere with operator vision.
- 9.8.16.1.11 Stern and side navigation lighting must be wired together on a separate breaker of the 12 volt DC electrical system separate from all around Mast /Anchor light. Two switches to be provided, labelled: Nav 1 (masthead / anchor) and Nav 2 (side [running] lights).

## **9.9 BILGE BLOWER**

- 9.9.1 The boat must be fitted with a 12V DC bilge blower system in accordance with TCMSB TP 1332 "Construction Standards for Small Vessels". The bilge blower system must be controlled by a separate watertight switch and fuse located at the operator's console.

## **9.10 PUMPING AND DRAINAGE**

- 9.10.1 BILGE SYSTEM – Based on the design of the boat proposed, bidders must indicate the number of pumps and their location as required under

- TP1332. The electric pump(s) must provide at a minimum, 2000 GPH suction.
- 9.10.2 The pump(s) must be fitted with a three position switch; auto-off and spring loaded manual with an indicator light to identify when the pump is running. The switch must be located near the helm station
  - 9.10.3 The bilge pump(s) must operate via a float switch(es) located in the bilge space as required by TP1332. Discharge piping must be fitted to the pump(s) via a common hose arrangement and discharged overboard. The bilge system must be fitted with a check valve to prevent water from entering the system from the discharge point.
  - 9.10.4 The electric and manual bilge pumps overboard discharge outlets must be above the waterline.
  - 9.10.5 The boat must be fitted with an audible and visual high-level alarm as required under TP1332. The alarms must be located at the console position.
  - 9.10.6 Deck wash pump : The boat must be fitted with electric clutch driven pumps, the pump must be a marine grade purpose built for seawater suction via through-hull metallic fitting. An electric clutch pump Jabsco 2 inches clutch pump will meet this requirement or equivalent.
  - 9.10.7 The wash down system must operate via a 2 inches discharge pipe connection on the working deck. A white 2 inch polyester hose with a 2 inch polycarbonate hose nozzle must be fitted to the boat, secured and stored in place on a hose rack outside and accessible in all operational conditions. The length of the hose must be no less than 10m.
  - 9.10.8 The deck wash down pump must have a pumping capacity between 4500 and 5500 gallon per hour (GPH).
  - 9.10.9 An electric bilge pump with a minimum 2000 gph capacity must be fitted in the main hull or largest watertight division.
  - 9.10.10 The electrical cabling used for all bilge pumps must be a minimum of 10 AWG gauge.
  - 9.10.11 An automatic control must be fitted that turns on each electric bilge pump when water is present in the bilge.
  - 9.10.12 An electric bilge pump control switch must be located on the operator's console, with settings for 'on', 'off' and 'automatic' operation.
  - 9.10.13 Bilge pump(s) must be wired direct to battery, so that it is constantly active as per TCMSB TP 1332 requirements.
  - 9.10.14 HULL DRAINAGE - a non-corrosive stainless plug must be provided in each watertight compartment as well as the vessel transom located at the lowest point to drain the entire hull when out of the water.
  - 9.10.15 All valves and their operation handles must be made of non-corroding materials in accordance with section 4.5 and they must be located where they are readily accessible for operation, maintenance or removal.

## **10.0 TESTS & TRIALS**

### **10.1 TESTS - GENERAL**

10.1.1 The Contractor must inspect and test the following items, 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 must 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 or as required by equipment manufacturer to assure the quality of the vessel:

- 10.1.1.1 Weight
- 10.1.1.2 Construction Quality
- 10.1.1.3 Lifting Gear
- 10.1.1.4 Propulsion Engines, including starting
- 10.1.1.5 Propulsion Controls
- 10.1.1.6 Steering System
- 10.1.1.7 Fuel System
- 10.1.1.8 Electrical System
- 10.1.1.9 Electronics

### **10.2 SEA TRIALS - GENERAL**

Sea trials must be conducted by the Contractor to demonstrate the vessel and its equipment conform to the requirements as stated in the Contract. All expenses incurred during the trials must be borne by the Contractor, including fuel unless otherwise specified.

- 10.2.1 A crew provided by the Contractor must operate the vessel during sea trials.
- 10.2.2 Residual fuel, if not drained for shipping, must be delivered in its tank with the vessel.
- 10.2.3 All Sea Trial instrumentation and equipment must be furnished and operated by the Contractor. Trial instrumentation, where applicable, must not replace the vessel's instruments (e.g., engine tachometer, pressure gauges, and thermometers). The Contractor must furnish all necessary hardware and fittings and must install the measuring devices.
- 10.2.4 After satisfactory completion of the trials, all instrumentation must be removed and all systems restored to their original condition. The Contractor must provide two (2) copies of the calibration data certifying the accuracy of the instrumentation for the tests and include it in the technical publications (see section 9.6).
- 10.2.5 The Contractor must submit a Test & Trials Plan, including a description of all of the acceptance trials to be performed. As a minimum, the following trials must be conducted: the vessel must operate in the Normal Loaded Condition.
  - 10.2.5.1 Speed Trials - The speed trials must be done over a course at least

- one (1) nautical mile in length. Two (2) runs must be made over the course, one (1) in each direction with the speeds for the two (2) runs averaged. The use of GPS data (averaged) is acceptable.
- 10.2.5.2 Endurance Trial - The boat must operate at maximum speed for a minimum of ten (10) minute intervals in the Fully Loaded Condition over one (1) hour period considering the break in procedures of the equipment. During the endurance trials, it must be demonstrated that all parts of the propulsion system are in full operation. All systems must be operated to check for proper lubrication, control and alignment. Fuel consumption must be recorded for the one-hour trial
- 10.2.5.3 Astern Propulsion - The vessel must be operated and manoeuvred using astern propulsion to establish the astern performance. During the backing performance tests the throttles must 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 foundations, the engine must 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 must be recorded.
- 10.2.5.4 Steering Gear - Tests must be conducted on the steering gear to demonstrate the adequacy of the steering system under all operations. Manoeuvring tests must be performed to ensure that the vessel meets the stated requirements.
- 10.2.5.5 All manoeuvring trials must be conducted in the Normal Load Condition.
- 10.2.5.6 Forward and aft tow posts - Towing tests must be completed for both the forward tow post and the aft tow post. The Contractor must use a load cell to test and record the load on each of the two tow posts separately. Visual inspections must be completed to verify there is no damage to the tow posts or the structure of the vessel upon completion of the testing and the approval of the Technical Authority.
- 10.2.5.7 Davit Crane and hauling equipment testing – The crane must be tested by lifting the 750 lb load identified off the deck of the vessel, swinging the load to the outside of the vessel at the maximum arc of the davit and hold the load for 10 minutes. Visual inspections must be completed to verify there is no damage to the crane or the structure of the vessel upon completion of the testing and the approval of the Technical Authority. Pot hauler testing to be determined after approval of placement design by the Technical Authority.
- 10.2.5.8 The Contractor must provide a Tests & Trials Sheet, (Appendix A) for the boat and include this sheet in the technical publications.
- 10.2.5.9 At the conclusion of sea trials the vessel must be thoroughly cleaned and inspected. Engine cooling systems must be flushed through with fresh water. The Contractor must repair any damage to the vessel or

ancillary equipment resulting from sea trials, to the satisfaction of the Technical Authority.

- 10.2.5.10 For the purpose of the trials, Normal Loaded Condition must be considered to be the basic vessel, fitted with all normal equipment, full fuel, with complement and loads per Vessel Particulars, (see section 4.1).
- 10.2.5.11 Final Inspection and Acceptance (PWGSC Acceptance Document) for delivery Final Inspection must not be performed until all tests have been satisfactorily completed with data available for review. The vessel must be ready for delivery in all respects, except for final preparation for shipment. The Contractor must provide personnel, as required, to resolve questions and to demonstrate equipment operation maintenance accessibility, removal and installation. The Contractor must document the results of the Final inspection and provide these results to the Contracting Officer, a hard copy of the trial results must be shipped with the deliverables for each vessel. Where applicable, serial numbers and other identifying information must be recorded for each boat and engine and supplied to the Contracting Officer.
- 10.2.5.12 Stability examination per TCMSB TP1332 will require the Contractor to record all stability calculation and trial results and provide a copy for the craft produced, to be placed in the technical manual, and two (2) copies for the Technical Authority.
- 10.2.6 Final Acceptance upon delivery, the Technical Authority, or a representative of the Technical Authority will conduct the final delivery inspection. The Contractor must repair any damage to the vessel or ancillary equipment resulting from shipping, to the satisfaction of the Technical Authority.
- 10.2.7 The Contractor must provide a Manoeuvring Data Sheet for each boat and include this data sheet in the technical publications. See Appendix A for a sample Manoeuvring Data Sheet.
- 10.2.8 Trial Records: The Contractor must maintain records of testing for each vessel for a minimum of two years. The Contractor must prepare a testing check sheet that certifies that each test has been completed. The check sheet must indicate the actual weight of the vessel in Light Condition. The check sheet must also indicate the total loaded weight.
- 10.2.9 Public Services and Procurement Canada Contract Authority and Technical Authority must be notified no less than 2 weeks prior to sea trials. The Technical Authority will witness and attend the sea trials. Sea trial results must be forwarded to the Technical Authority prior to delivery of the vessel.
- 10.2.10 At the conclusion of sea trials the vessel must be thoroughly cleaned and inspected. Engine cooling systems must be flushed through with fresh water. The Contractor must repair any damage to the vessel or ancillary equipment resulting from sea trials, to the satisfaction of the Technical Authority.

10.2.11 Final Inspection and Acceptance (PSPC Acceptance Document) for delivery Final Inspection must not be performed until all tests have been satisfactorily completed with data available for review. The vessel must be ready for delivery in all respects, except for final preparation for shipment. The Contractor must provide personnel, as required, to resolve questions and to demonstrate equipment operation maintenance accessibility, removal and installation. The Contractor must document the results of the Final inspection and provide these results to the Contracting Officer, a hard copy of the trial results must be shipped with the deliverables for each vessel. Where applicable, serial numbers and other identifying information must be recorded for each boat and engine and supplied to the Contracting Officer.

Upon delivery, Fisheries and Oceans will conduct the final acceptance inspection. The supplier must repair any damage to the boat or ancillary equipment resulting from shipping, to the satisfaction of Fisheries and Oceans team. The overall system must be delivered to Fisheries and Oceans where it will undergo a full acceptance test carried out by the Fisheries & Oceans team. At a minimum these tests will include: Boat performance including speed, endurance under normal load (1 hour), all lighting systems, maneuverability, Stopping and backing function. In order to demonstrate astern performance of the engines in an emergency stop and to test the strength of the engine mounting arrangements, the engine must be subjected to two stops from full power ahead at maximum speed to dead in the water using reverse thrust.

The supplier will be responsible for all direct and indirect cost of labour, tools, equipment rental, materials and supplies required and associated to the delivery, package, transport, and installation of all the deliverables.

**Final Inspection:**

The supplier must provide personnel, as required, to resolve questions and to demonstrate equipment operation maintenance accessibility, removal and installation.

## **11.0 WARRANTY AND SERVICE PROVISIONS**

### **11.1 COMPONENTS AND EQUIPMENT SUPPORT**

11.1.1 All components and all mechanical, auxiliary, electronic and electrical equipment installed on the boat, must be supportable by parts and service in Canada within 30 days. All components and equipment must be current models.

### **11.2 SPARE PARTS**

#### **11.2.1 PARTS AND SERVICE DEPOT(S)**

11.2.1.1 Contractor's parts depots must be capable of efficiently supplying all Canada with spare parts for all components of the vessel and warranty service for all components of the vessel. It is recognized that many equipment items will have their own manufacturer's warranty cards for owner registration. Contractors must have a factory authorized service representative capable of call back response in all regions of Canada within 48 hours of receiving a service call.

## **12.0 DOCUMENTATION**

### **12.1 GENERAL**

12.1.1 All documentation must be provided in both official languages (French and English)

### **12.2 BUILDER'S PLATE**

12.2.1 A Builder's Plate must be affixed to each asset in a readily visible location, e.g. for a boat, in way of the helm position, for a trailer on the left side of the tongue.

12.2.2 The plate must be made of a weather resistant material compatible with that to which it is affixed.

12.2.3 The dimensions of the plate must be not less than 200mm x 125mm

12.2.4 The plate must contain the following information, permanently etched:

12.2.4.1 National Asset Code;

12.2.4.2 Naval Architect/Designer;

12.2.4.3 Builder;

12.2.4.4 Hull Number;

12.2.4.5 Year of Construction;

12.2.4.6 Call Sign (if applicable); and

12.2.4.7 Lightship Weight in kilograms.

12.2.5 The Builder's Plate must be in both official languages.

### **12.3 TECHNICAL PUBLICATIONS**

12.3.1 Contractor must provide, upon delivery of the vessel, complete sets of technical publications of a comprehensive owner/operator manual that provides a physical and functional description of the craft, it's machinery and equipment, as well as delivery testing and sea trial result documentation. The manual must include but not be limited to sections such as: General Information, Technical Information, and Spare Parts List.

12.3.2 The contractor is to provide copies of the technical publications as follows:

12.3.2.1 one (1) complete hard copy and one (1) complete electronic copy set of technical publications per vessel produced for the operator of the vessel, to be delivered with the vessel.

- 12.3.2.2 One (1) complete hard copy and one (1) complete electronic copy set of technical publications per vessel produced for the Technical Authority, to be delivered to the same address identified for invoices.

## **12.4 GENERAL INFORMATION SECTION**

- 12.4.1 The General Information Section must include a description of the arrangement and function of all structures, systems, fittings and accessories that comprise the boat, with illustrations as appropriate:
  - 12.4.1.1 Operating procedures;
  - 12.4.1.2 Basic operating characteristics (such as temperatures, pressures, flow rates)
  - 12.4.1.3 Installation criteria and drawings, assembly and disassembly instructions with comprehensive illustrations showing each step;
  - 12.4.1.4 Recommended planned maintenance; and
  - 12.4.1.5 Complete troubleshooting procedures.

## **12.5 TECHNICAL INFORMATION SECTION**

- 12.5.1 The Technical Information Section must include a complete set of detailed owners/operators manuals, drawings, parts lists and supplemental data for all components of the boat (whether acquired from external sources or custom-manufactured), including:
  - 12.5.1.1 Initial Spares Parts List; The list must include the name, part number and serial number if applicable of the parts, items or components and must indicate the supplier (name, address, phone number, email address) of this part, equipment or component and in which part of the specification the item appears.
  - 12.5.1.2 Hull; including hull data, TEST and TRIAL results, serial or manufacturers' numbers, and equipment warranty cards.
  - 12.5.1.3 Pre-trial shop Testing Check Sheet.
  - 12.5.1.4 Engine(s) and equipment: including engine and propulsion serial numbers.
  - 12.5.1.5 Electronics, (if applicable): including model and serial numbers.
  - 12.5.1.6 Regulatory and Stability information: as required per TP 1332
  - 12.5.1.7 All components fitted to the vessel must have the Maintenance Data Sheet attached as "*Appendix B: Maintenance Data Sheet*", completed before acceptance of the vessel from the Contractor. This information will be used to populate the data base for the maintenance of the vessel.
  - 12.5.1.8 Acceptance Certificates, and compliance sheets or certificates distributed with equipment i.e. life saving appliances, lifting appliances, engine test reports, calibration certificates, Nav light certificates, Fire suppression material certificates, flotation foam rating sheets. The initial inspection of the vessels after delivery, by TCMS, will establish TP 1332 compliance.

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

12.5.1.9.1 Propulsion: Propellers, filters, water pump impeller, batteries, throttle and shift cables, special engine tools.

12.5.1.9.2 Electrical: panel breakers, fuses, light bulbs;

12.5.1.9.3 Boat Structures and Fittings: Miscellaneous commonly used fasteners.

## **12.6 ADDITIONAL DELIVERABLE DOCUMENTATION**

12.6.1 The following additional documentation must be delivered with each boat:

12.6.1.1 Tonnage Registration Certificate in accordance with TP 13430 - [Tonnage Measurements for Small Vessels \(Non-Pleasure Craft\) - Hyperlink](#)

12.6.1.2 Bill of Sale

12.6.1.3 Final Data Package (Reference section 3.3) and Appendix I.

12.6.1.4 Test & Trial results

12.6.1.5 Acceptance Certificates, i.e. lifesaving appliances, lifting appliances, engine test reports, calibration certificates, extinguishers, etc.

12.6.1.6 Testing Check Sheets.

## **13.0 SHIPPING AND DELIVERY**

### **13.1 GENERAL**

Prior to shipping, the boat is to be cleaned, appropriately protected and covered in accordance with the instructions specified in this section.

13.1.1 Prior to shipping, the boat must be secured ~~on their respective trailers~~, cleaned, preserved and covered in accordance with this section. All areas of the boat are to be cleaned prior to covering for shipping. Bilges are to be dry and free of oil and debris and the fuel tanks must be full with fuel stabilizer added.

13.1.2 The propulsion system must 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.

13.1.3 The batteries are to be disconnected. A warning plate is to be tied to the steering wheel with a wire indicating that the boat has been protected for shipping and storage and must not be started until the propulsion machinery has been reactivated.

13.1.4 All contact points with the boat are to be padded. A shrink wrap cover is to be provided to protect the boat during shipping and storage.

## APPENDIX I

# Final Deliverable Data Package

The Final Data Package which must be delivered to Canada is as defined in the Contract, but must include, as a minimum the technical publications identified in this appendix.

## **1.0 COMPREHENSIVE OWNER/OPERATOR MANUALS**

### **1.1 DELIVERABLES**

- 1.1.1** One (1) complete hard copy and one (1) complete CD or USB electronic copy set of the manuals per vessel delivered for the operator of each vessel, to be delivered with the vessel.
- 1.1.2** One (1) complete hard copy and one (1) complete CD or USB electronic copy set of the manuals per vessel delivered for the Technical Authority, to be delivered to the same address identified for invoices.

### **1.2 CONTENT**

The manuals must provide a physical and functional description of the craft, its machinery and equipment, as well as delivery testing and sea trial result documentation. The manuals must include as a minimum the following three sections and as detailed below:

- General Information
- Technical Information
- Spare Parts List

#### **1.2.1 GENERAL INFORMATION SECTION**

The General Information Section must include a description of the arrangement and function of all structures, systems, fittings and accessories that comprise the boat, with illustrations as appropriate:

- 1.2.1.1 Operating procedures;
- 1.2.1.2 Basic operating characteristics (such as temperatures, pressures, flow rates)
- 1.2.1.3 Installation criteria and drawings, assembly and disassembly instructions with comprehensive illustrations showing each step;
- 1.2.1.4 Recommended planned maintenance; and
- 1.2.1.5 Complete troubleshooting procedures.

#### **1.2.2 TECHNICAL INFORMATION SECTION**

The Technical Information Section a complete set of detailed owner / operator instructions, drawings, parts lists and supplemental data for all components of the boat (whether acquired from external sources or custom-manufactured).

- 1.2.2.1 "As Fitted", dimensioned drawings must be produced for manuals to record the vessel particulars.
- 1.2.2.2 Plan and Profile, showing the General arrangement; and

- 1.2.2.3 Indication of the Systems arrangement presented with the above drawings covering Bilge, Fuel, Electrical, and propulsion installations.
- 1.2.2.4 Parts list must include the name, part number and serial number if applicable of the parts, items or components and must indicate the supplier (name, address, phone number, email address) of this part, equipment or component and in which part of the specification the item appears.
- 1.2.2.5 Hull Serial Number (HIN), copy of builder's plate, TEST and TRIAL results as per completed Attachment 1 of Appendix II, serial or manufacturer's numbers, and equipment warranty cards.
- 1.2.2.6 Engine(s) and equipment: including engine and propulsion serial numbers.
- 1.2.2.7 Acceptance Certificates, and compliance sheets or certificates distributed with equipment i.e. life-saving appliances, lifting appliances, engine test reports, calibration certificates, Nav light certificates, Fire suppression material certificates, flotation foam rating sheets
- 1.2.2.8 Pre-trial shop Testing Check Sheet.
- 1.2.2.9 Electronics, (if applicable): including model and serial numbers.
- 1.2.2.10 Regulatory and Stability documentation: as required per TP 1332, which, references ISO12217.

### **1.2.3 SPARE PARTS LIST SECTION**

The Spare Parts List section must include a list of recommended initial onboard spare parts to be stocked for the vessel. The list must include the name, part number and serial number if applicable of the parts, items or components and must indicate the supplier (name, address, phone number, email address) of this part, equipment or component and in which part of the TSOR the item appears. At a minimum this list must include the following items (as applicable):

- 1.2.3.1 Propulsion: Propellers, filters, water pump impeller, batteries, throttle and shift cables, special engine tools.
- 1.2.3.2 Electrical: panel breakers, fuses, light bulbs;
- 1.2.3.3 Boat Structures and Fittings: Miscellaneous commonly used fasteners.

## 2.0 ADDITIONAL DELIVERABLE DOCUMENTATION

The following additional documentation must be delivered with each vessel:

2.1 Tonnage Registration Certificate in accordance with TP 13430 -

<http://www.tc.gc.ca/eng/marinesafety/svcp-gt-3948.htm>

**2.2** Two complete sets of Bill of Sales per vessel delivered, each set must include a bill of sale for the vessel. One set to be provided with the manuals with vessel delivery and the second to be provided with the manuals for the Technical Authority.

# APPENDIX II

## MANOEUVRING DATA SHEET

<b>Small Craft / Vessel Builder:</b>			
<b>Small Craft / Vessel Description:</b>			
<b>Hull Identification Number:</b>			
<b>National Asset Code:</b>			
<b>Date of Trials:</b>			
<b>Personnel in Attendance:</b>			
<b>Builder</b>			
<b>PWGSC</b>			
<b>DFO</b>			
<b>DFO</b>			
<b>Time: _____ hrs Departing from _____</b>			
<b>Small Craft / Vessel Weights:</b>	Dry Weight of Hull:		_____ lbs/ _____ kg
	Furnishings & Fittings:		_____ lbs/ _____ kg
	Engines & Equipment:		_____ lbs/ _____ kg
	Fuel:	Fuel:	_____ lbs/ _____ kg
	_____ Imp gal	_____ Litres	
	<b>Total Weight of Small Craft/Vessel:</b>		<b>_____ lbs/ _____ kg</b>
	Number of Crew _____ and operating equipment:		_____ lbs/ _____ kg
	<b>Test Total Laden Weight:</b>		<b>_____ lbs/ _____ kg</b>
	<b>Trailer weight:</b>		<b>_____ lbs/ _____ kg</b>
<b>Boat &amp; Trailer weight:</b>		<b>_____ lbs/ _____ kg</b>	
<b>Port</b>		<input type="radio"/> Immediate, Yes / No	

<b>Motors: Starting - Operation</b> "IDENTIFY INBOARD/OUTBOARDS"		<b>Starboard</b>	<input type="radio"/> Immediate, Yes / No
<b>Propellers/Impellers</b>	<b>Pitch</b>		_____
	<b>Diameter</b>		_____
	<b>No. of Blades</b>		_____
	<b>Stainless Steel or Aluminum</b>		<input type="radio"/> S/S ___ AL
<b>Static Attitude &amp; Trim:</b>			
<b>Weather Conditions: Refer to attached Beaufort Wind Scale. BWS No. _____</b>			
<b>Speed Trials</b>	<b>Speed Required</b> _____ - _____ <b>knots</b>		
	Cruising Speed: measured mile 1 way		_____ kts @ _____ rpm
	Cruising Speed: measured mile return		_____ kts @ _____ rpm
	<b>Averaged Cruising Speed:</b>		_____ kts @ _____ rpm
	Maximum Speed: measured mile 1 way		_____ kts @ _____ rpm
	Maximum Speed: measured mile return		_____ kts @ _____ rpm
	<b>Average Maximum Speed</b>		_____ kts @ _____ rpm
<b>Full Throttle</b>	From dead stop to plane		_____ seconds
	From dead stop to 30 knots		_____ seconds
<b>Astern Propulsion:</b>	Straight line to 2000 rpm		<input type="radio"/> Issues, Yes / No
	Hard a-port		<input type="radio"/> Issues, Yes / No
	Hard a-starboard		<input type="radio"/> Issues, Yes / No

	Emergency stop	_____ seconds
<b>Tubes (if applicable)</b>	No. of Chambers	_____
	Semi-auto fill system	<input type="radio"/> Yes / No
	Time to fill all chambers	_____ seconds
	<b>Fuel consumption</b>	
<b>Endurance Trials: X = gallons or Litres</b>	Port & Starboard Motor: at cruise:	_____ X/hr @ _____ rpm
	Port & Starboard Motor: at full throttle:	_____ X/hr @ _____ rpm
<b>Steering: Acceptable Y / N</b>	Straight line	<input type="radio"/> Yes / No
	Hard-Port radius of turn. Full Throttle	_____ feet
	Hard-Stbd radius of turn. Full Throttle	_____ feet
	Lock to lock = 35 degrees pt. & stbd	<input type="radio"/> Yes / No
	Effective steering 0-5 knots	<input type="radio"/> Yes / No
	5-10 knots	<input type="radio"/> Yes / No
	20-30 knots	<input type="radio"/> Yes / No
	Full speed	<input type="radio"/> Yes / No
<b>Outboard/Inboard Leg Trim Control:</b>	From fully raised to fully lowered.	<input type="radio"/> Acceptable Yes / No
<b>Trim Tab Operation:</b>	Fully raised, fully lowered.	<input type="radio"/> Acceptable Yes / No
<b>Engine Controls:</b>	Start	<input type="radio"/> Issues, Yes / No
	Shift	<input type="radio"/> Issues, Yes / No
	Throttle	<input type="radio"/> Acceptable Yes / No
	Tachometer	<input type="radio"/> Acceptable Yes / No

<b>Engine Gauges:</b>	Fuel gauges	<input type="radio"/> Acceptable Yes / No	
	Trim gauges	<input type="radio"/> Acceptable Yes / No	
	Oil pressure	<input type="radio"/> Acceptable Yes / No	
<b>Engine Gauges:</b>	Voltmeter	_____ volts	
<b>Cabin Levels:</b>	<b>Sound</b>	Cruising speed- door & windows closed	_____ dbA @ _____ rpm
		Cruising speed- door & windows open	_____ dbA @ _____ rpm
		Full speed- door & windows closed	_____ dbA @ _____ rpm
		Full speed- door and windows open	_____ dbA @ _____ rpm
<b>Outboard/Inboard engine operation:</b>	Starting	<input type="radio"/> Acceptable Yes / No	
	Shifting	<input type="radio"/> Acceptable Yes / No	
	Throttle	<input type="radio"/> Acceptable Yes / No	
	Raise	<input type="radio"/> Acceptable Yes / No	
	Lower	<input type="radio"/> Acceptable Yes / No	
<b>Loaded Vessel Drop Test:</b>	<b>If applicable</b>	<input type="radio"/> Acceptable Yes / No	
<b>Lifting Certified:</b>	<b>Bridle If applicable</b>	<input type="radio"/> Acceptable Yes / No	
<b>Rollover test</b>	<b>If applicable</b>	<input type="radio"/> Acceptable Yes / No	

<b><u>NOTES</u></b>

ANNEX III

<b>Section</b>	<b>Gulf Region</b>	<b>Maritimes Region</b>
3.2.7 location	As noted in draft TSOR	Location of delivery TBD – SWNS Area
5.0 vessel	Closed Stern	Open Stern - Tailgate
8.2.16.4 Lobster equipment	As noted in draft TSOR	Location of Lobster Trap Hauler
	As noted in draft TSOR	No fairleads roller required
	As noted in draft TSOR	Location and design to be determined at contract award.
8.2.16.15 Crab equipment	As noted in draft TSOR	Crab Equipment not required for SWNS vessel
8.2.16.17 Marine crane	As noted in draft TSOR	Exact location to be determined at the contract award. Marine crane must be a HIAB CLX-029-4 equipped with a winch
9.2.2 Diesel Engine	As noted in draft TSOR	Potential based on area depending on warranty/service availability.
9.7.2 Fuel system	As noted in draft TSOR	Ensure 2 racor
8.4.1.15 Lifesaving and emergency equipment		8 person life raft