



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

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

**Pacific Region
401 - 1230 Government Street
Victoria, B.C.
V8W 3X4
Bid Fax: (250) 363-3344**

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

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

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

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

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

Comments - Commentaires

Title - Sujet 8.0-8.2m SOLAS Rescue OB RIBs	
Solicitation No. - N° de l'invitation F7044-170075/B	Date 2018-04-20
Client Reference No. - N° de référence du client F7044-170075	
GETS Reference No. - N° de référence de SEAG PW-\$XLV-166-7498	
File No. - N° de dossier XLV-7-40236 (166)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-06-04	Time Zone Fuseau horaire Pacific Daylight Saving Time PDT
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Castle, David G.	Buyer Id - Id de l'acheteur xlv166
Telephone No. - N° de téléphone (250) 217-6555 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Fisheries and Oceans Canada See herein	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

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

Issuing Office - Bureau de distribution

Public Works and Government Services Canada - Pacific
Region
401 - 1230 Government Street
Victoria, B. C.
V8W 3X4

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

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PART 1 - GENERAL INFORMATION

1.1 Security Requirements

There is no security requirement associated with this bid solicitation.

1.2 Requirement

The Department of Fisheries and Oceans – Canadian Coast Guard Service has a requirement for the provision of Five (5) FAST RESCUE SOLAS RIBS as per the Technical Statement of Requirement (Annex A) and the Basis of Payment Annex B.

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 of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

1.4 Trade Agreements

The requirement is subject to the provisions of the Canadian Free Trade Agreement (CFTA), Canadian Economic Trade Agreement (CETA), North American Free Trade Agreement (NAFTA), the World Trade Organization – Agreement on Government Procurement (WTO-AGP), the Canada-Chile Free Trade Agreement, the Canada-Peru Free Trade Agreement, the Canada-Columbia Free Trade Agreement, or the Canada-Panama Free Trade Agreement.

1.5 Phased Bid Compliance Process

The Phased Bid Compliance Process applies to this requirement.48

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

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

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2017-04-27) 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

B3000T, 2006-06-16, Equivalent Products

A9125T, 2007-05-25, Valid Labour Agreement

2.2 Submission of Bids

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

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than **four (4) 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 **British Columbia**.

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

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

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

Section I: Technical Bid - 2 hard copies.
Section II: Financial Bid - 1 hard copy.
Section III: Certifications - 1 hard copy.

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

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

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

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, Bidders should:

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

3.2 Section I: Technical Bid

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 Statement of Requirements, Annex A, is entirely mandatory. 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.

3.2.1 Bidder's Check List and Technical Confirmation

The Bidders must review for bidding purpose the **Annex G - BID PACKAGE CHECKLIST**

3.2.2 Inspection and Test Plan (ITP)

1. Bidders must provide with their bid the inspection plan and testing procedures that will be used to verify, test and inspect all of the components and systems on the boat from initial construction to completion. The ITP must be in accordance with **Annex C** attached to this RFP.
2. Bidders must outline the process by which they will address and solve problems or delays with the fabrication, various installations, testing and delivery of the boat.

3.2.3 Drawings and Other Documentation

The bidder must submit with their technical bid the following drawings listed below and all of the drawings and other documentations required in the quantities number and formats described by the Technical Statement of Requirements, Annex A. 2.3.2, and Preliminary Data Package

1. Either;

A valid Certificate of Approval issued by Transport Canada in accordance with the approved product catalogue for Life Saving Equipment and as identified in the SOLAS Rescue Boats product category.

Or;

As identified in TP 14612, have received a certificate of approval following the procedures contained therein.

2. A general arrangement.
3. Structural Drawings showing Deck Plan, a Centerline profile.
4. A detailed Lines Plan.
5. A drawing of the fuel supply arrangement.
6. A drawing of bilge pumping system
7. Electrical one-line diagram.
8. The lightship weight.
9. Draft Stability Calculation of the proposed vessel.
10. A Project Plan (written description) of how the Bidder/Contractor will comply with the TSOR. The written description must address each main element of the TSOR and indicate how the Bidder/Contractor will comply with the intent of the TSOR and successfully deliver the vessel(s) to the performance standard(s) identified.
11. A Preliminary Production Schedule which must verify the Bidder/Contractor's ability to deliver the vessel(s) in accordance with the requirements of the Solicitation.

3.2.4 Subcontractors

As part of their technical bid, Bidders must submit a completed **Annex E - Subcontractor List**.

3.2.5 Vessel Construction Experience

As part of their technical bid, the Bidder must provide objective evidence of experience in the construction of vessels of the size, type and complexity which are the subject of this RFP. To demonstrate this experience, the Bidder must provide

- (a) detailed list of such vessels built pursuant to TP 1332, Construction Standards for Small Vessels, Non-pleasure craft latest edition, within the last 5 years;
- (b) photographs, references, builder's plates, hull identification numbers confirming multiple builds of vessels;
- (c) (for listed TP 1332, non-pleasure craft sold within the last 5 years only) purchaser's name and contact information, and the date of sale.

The Bidder must also provide details on how the materials and equipment used in the construction, manufacture of the proposed vessel is suited to the operating and environmental conditions that the vessel may encounter.

3.2.6 Naval Architecture and Engineering

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 qualified sub-contractor to provide marine drafting and engineering services. Qualified sub-contractor is defined as having the provided these services on similar vessel construction projects (same size, type and complexity).

3.2.7 Contractor's Quality Management System

1. The Bidder 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 objective evidence may be in the form of a copy of the Bidder's Quality Assurance Manual which addresses these elements.
3. The Bidder must also provide a minimum of one (1) samples of completed quality records used on the most recent marine vessel construction at its facility.
4. The quality control elements must include, as a minimum:
Quality Assurance Manual or Quality Assurance Program Descriptions
Inspection and Test Plan, Final Inspection, Quality Records

3.2.8 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 *Part 6 - Resulting Contract, Clause 6.19*.

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.

3.2.9 Welding Certification – Bid

1. The Contractor must be performed by a welder certified by the Canadian Welding Bureau (CWB) in accordance with the requirements of the following Canadian Standards Association (CSA) standards:

(a) CSA W47.2 (current version), Certification for Companies for Fusion Welding of Aluminum
2. Before contract award and within 48 hours of the written request by the Contracting Authority, the successful bidder must submit evidence demonstrating it or its subcontractor's certification by CWB in accordance with the CSA welding standards.

3.2.10 Preliminary Work Schedule

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

3.3 Section II - Financial Bid

Bidders must submit their financial bid in accordance with the **Detailed Financial Bid Presentation Sheet at Annex D**.

3.3.1 Exchange Rate Fluctuation

C3011T, 2013-11-06, Exchange Rate Fluctuation

3.3.2 Financial Capability

A9033T, 2012-07-16, Financial Capability

3.3.3 Unscheduled Work

Bidders must provide the information requested in Annex D, Article D-3. The unscheduled work rates will be included in the Basis of Payment but form part of the bid evaluation.

3.3.4 Electronic Payment of Invoices – Bid

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

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

For details and to complete please refer to Annex H - TO PART 3 OF THE SOLICITATION

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

3.4 Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Canada will use the Phased Bid Compliance Process described below.**
- (b) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- C An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Phased Bid Compliance Process

4.1.1.1 (2017-11-03) General

- (a) Canada is conducting the PBCP described below for this requirement.
- (b) Notwithstanding any review by Canada at Phase I or II of the PBCP, Bidders are and will remain solely responsible for the accuracy, consistency and completeness of their Bids and Canada does not undertake, by reason of this review, any obligations or responsibility for identifying any or all errors or omissions in Bids or in responses by a Bidder to any communication from Canada.

THE BIDDER ACKNOWLEDGES THAT THE REVIEWS IN PHASE I AND II OF THIS PBCP ARE PRELIMINARY AND DO NOT PRECLUDE A FINDING IN PHASE III THAT THE BID IS NON-RESPONSIVE, EVEN FOR MANDATORY

REQUIREMENTS WHICH WERE SUBJECT TO REVIEW IN PHASE I OR II AND NOTWITHSTANDING THAT THE BID HAD BEEN FOUND RESPONSIVE IN SUCH EARLIER PHASE. CANADA MAY DEEM A BID TO BE NON-RESPONSIVE TO A MANDATORY REQUIREMENT AT ANY PHASE.

THE BIDDER ALSO ACKNOWLEDGES THAT ITS RESPONSE TO A NOTICE OR A COMPLIANCE ASSESSMENT REPORT (CAR) (EACH DEFINED BELOW) IN PHASE I OR II MAY NOT BE SUCCESSFUL IN RENDERING ITS BID RESPONSIVE TO THE MANDATORY REQUIREMENTS THAT ARE THE SUBJECT OF THE NOTICE OR CAR, AND MAY RENDER ITS BID NON-RESPONSIVE TO OTHER MANDATORY REQUIREMENTS.

- (c) Canada may, in its discretion, request and accept at any time from a Bidder and consider as part of the Bid, any information to correct errors or deficiencies in the Bid that are clerical or administrative, such as, without limitation, failure to sign the Bid or any part or to checkmark a

box in a form, or other failure of format or form or failure to acknowledge; failure to provide a procurement business number or contact information such as names, addresses and telephone numbers; inadvertent errors in numbers or calculations that do not change the amount the Bidder has specified as the price or of any component thereof that is subject to evaluation. This shall not limit Canada's right to request or accept any information after the bid solicitation closing in circumstances where the bid solicitation expressly provides for this right. The Bidder will have the time period specified in writing by Canada to provide the necessary documentation. Failure to meet this deadline will result in the Bid being declared non-responsive.

- (d) The PBCP does not limit Canada's rights under Standard Acquisition Clauses and Conditions (SACC) 2003 (2017-04-27) Standard Instructions – Goods or Services – Competitive Requirements nor Canada's right to request or accept any information during the solicitation period or after bid solicitation closing in circumstances where the bid solicitation expressly provides for this right, or in the circumstances described in subsection (c).
- (e) Canada will send any Notice or CAR by any method Canada chooses, in its absolute discretion. The Bidder must submit its response by the method stipulated in the Notice or CAR. Responses are deemed to be received by Canada at the date and time they are delivered to Canada by the method and at the address specified in the Notice or CAR. An email response permitted by the Notice or CAR is deemed received by Canada on the date and time it is received in Canada's email inbox at Canada's email address specified in the Notice or CAR. A Notice or CAR sent by Canada to the Bidder at any address provided by the Bidder in or pursuant to the Bid is deemed received by the Bidder on the date it is sent by Canada. Canada is not responsible for late receipt by Canada of a response, however caused.

4.1.1.2 (2018-03-13) Phase I: Financial Bid

- (a) After the closing date and time of this bid solicitation, Canada will examine the Bid to determine whether it includes a Financial Bid and whether any Financial Bid includes all information required by the solicitation. Canada's review in Phase I will be limited to identifying whether any information that is required under the bid solicitation to be included in the Financial Bid is missing from the Financial Bid. This review will not assess whether the Financial Bid meets any standard or is responsive to all solicitation requirements.
- (b) Canada's review in Phase I will be performed by officials of the Department of Public Works and Government Services.
- (c) If Canada determines, in its absolute discretion that there is no Financial Bid or that the Financial Bid is missing all of the information required by the bid solicitation to be included in the Financial Bid, then the Bid will be considered non-responsive and will be given no further consideration.
- (d) For Bids other than those described in c), Canada will send a written notice to the Bidder ("Notice") identifying where the Financial Bid is missing information. A Bidder, whose Financial Bid has been found responsive to the requirements that are reviewed at Phase I, will not receive a Notice. Such Bidders shall not be entitled to submit any additional information in respect of their Financial Bid.
- (e) The Bidders who have been sent a Notice shall have the time period specified in the Notice (the "Remedy Period") to remedy the matters identified in the Notice by providing to Canada, in writing, additional information or clarification in response to the Notice. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the Notice.

- (f) In its response to the Notice, the Bidder will be entitled to remedy only that part of its Financial Bid which is identified in the Notice. For instance, where the Notice states that a required line item has been left blank, only the missing information may be added to the Financial Bid, except that, in those instances where the addition of such information will necessarily result in a change to other calculations previously submitted in its Financial Bid, (for example, the calculation to determine a total price), such necessary adjustments shall be identified by the Bidder and only these adjustments shall be made. All submitted information must comply with the requirements of this solicitation.
- (g) Any other changes to the Financial Bid submitted by the Bidder will be considered to be new information and will be disregarded. There will be no change permitted to any other Section of the Bidder's Bid. Information submitted in accordance with the requirements of this solicitation in response to the Notice will replace, in full, **only** that part of the original Financial Bid as is permitted above, and will be used for the remainder of the bid evaluation process.
- (h) Canada will determine whether the Financial Bid is responsive to the requirements reviewed at Phase I, considering such additional information or clarification as may have been provided by the Bidder in accordance with this Section. If the Financial Bid is not found responsive for the requirements reviewed at Phase I to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase I to the satisfaction of Canada, will receive a Phase II review.

4.1.1.3 (2018-03-13) Phase II: Technical Bid

- (a) Canada's review at Phase II will be limited to a review of the Technical Bid to identify any instances where the Bidder has failed to meet any Eligible Mandatory Criterion. This review will not assess whether the Technical Bid meets any standard or is responsive to all solicitation requirements. Eligible Mandatory Criteria are all mandatory technical criteria that are identified in this solicitation as being subject to the PBCP. Mandatory technical criteria that are not identified in the solicitation as being subject to the PBCP, will not be evaluated until Phase III.
- (b) Canada will send a written notice to the Bidder (Compliance Assessment Report or "CAR") identifying any Eligible Mandatory Criteria that the Bid has failed to meet. A Bidder whose Bid has been found responsive to the requirements that are reviewed at Phase II will receive a CAR that states that its Bid has been found responsive to the requirements reviewed at Phase II. Such Bidder shall not be entitled to submit any response to the CAR.
- (c) A Bidder shall have the period specified in the CAR (the "Remedy Period") to remedy the failure to meet any Eligible Mandatory Criterion identified in the CAR by providing to Canada in writing additional or different information or clarification in response to the CAR. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the CAR.
- (d) The Bidder's response must address only the Eligible Mandatory Criteria listed in the CAR as not having been achieved, and must include only such information as is necessary to achieve such compliance. Any additional information provided by the Bidder which is not necessary to achieve such compliance will not be considered by Canada, except that, in those instances where such a response to the Eligible Mandatory Criteria specified in the CAR will necessarily result in a consequential change to other parts of the Bid, the Bidder shall identify such additional changes, provided that its response must not include any change to the Financial Bid.

- (e) The Bidder's response to the CAR should identify in each case the Eligible Mandatory Criterion in the CAR to which it is responding, including identifying in the corresponding section of the original Bid, the wording of the proposed change to that section, and the wording and location in the Bid of any other consequential changes that necessarily result from such change. In respect of any such consequential change, the Bidder must include a rationale explaining why such consequential change is a necessary result of the change proposed to meet the Eligible Mandatory Criterion. It is not up to Canada to revise the Bidder's Bid, and failure of the Bidder to do so in accordance with this subparagraph is at the Bidder's own risk. All submitted information must comply with the requirements of this solicitation.
- (f) Any changes to the Bid submitted by the Bidder other than as permitted in this solicitation, will be considered to be new information and will be disregarded. Information submitted in accordance with the requirements of this solicitation in response to the CAR will replace, in full, **only** that part of the original Bid as is permitted in this Section.
- (g) Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Canada in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Criteria. It will not be used at any Phase of the evaluation to increase or decrease any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Criterion that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Bidder in response to the CAR. If so, the Bid will be considered responsive in respect of such Eligible Mandatory Criterion, and the additional or different information submitted by the Bidder shall bind the Bidder as part of its Bid, but the Bidder's original score, which was less than the mandatory minimum for such Eligible Mandatory Criterion, will not change, and it will be that original score that is used to calculate any score for the Bid
- (h) Canada will determine whether the Bid is responsive for the requirements reviewed at Phase II, considering such additional or different information or clarification as may have been provided by the Bidder in accordance with this Section. If the Bid is not found responsive for the requirements reviewed at Phase II to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase II to the satisfaction of Canada, will receive a Phase III evaluation.

4.1.1.4 (2018-03-13) Phase III: Final Evaluation of the Bid

- (a) In Phase III, Canada will complete the evaluation of all Bids found responsive to the requirements reviewed at Phase II. Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) A Bid is non-responsive and will receive no further consideration if it does not meet all mandatory evaluation criteria of the solicitation.

4.1.2 Technical Evaluation

4.1.2.1 Mandatory Technical Criteria

The Phased Bid Compliance Process will apply to all mandatory technical criteria.

Regardless of requirements specified elsewhere in this bid solicitation and its associated Statement of Work, the following are the documents that must be submitted with the response of the bid closing. The Bidder must be compliant on each item to be considered responsive. **M**: Mandatory with the bid, **48 Hrs.** must be provided within **48 hours** of the written request, **5 days if indicated**: Must be provided within **5 working days** of the written request:

No.	Solicitation Reference	Solicitation Reference	Description	Period	Document provided
	Front Page	Front Page	Request for Proposal to Tender document part 1 page 1 completed and signed;	48 hrs	<input type="checkbox"/>
	Part 3	3.2	Section 1- Technical Bid	M	<input type="checkbox"/>
	Part 3	3.2.3	Drawings and Documentations	M	<input type="checkbox"/>
	Part 3	3.2.5	Vessel construction experience	M	<input type="checkbox"/>
	Part 3	3.2.2	Inspection and Test plan (ITP)	48 hrs.	<input type="checkbox"/>
	Part 3	3.2.4	Subcontractor List	48 hrs.	<input type="checkbox"/>
	Part 3	3.2.6	Naval Architect and Engineering	48 hrs.	<input type="checkbox"/>
	Part 3	3.2.7	Contractor's Quality Management System	48 hrs.	<input type="checkbox"/>
	Part 3	3.2.8	Insurance requirement	48 hrs.	<input type="checkbox"/>
	Part 3	3.2.9	Welding Certification Bid	48 hrs.	<input type="checkbox"/>
	Part 3	3.2.10	Preliminary Work Schedule	48 hrs.	<input type="checkbox"/>
	Part 3	3.3.4	Electronic Payment of Invoices - Bid	48 hrs.	<input type="checkbox"/>
	Part 6	6.5.3	Contractor Representative	48 hrs.	<input type="checkbox"/>

In order to be compliant, the bidder's proposal must, to the satisfaction of Canada:

- a) Meet all requirements per the Annex A, Statement of Work and
- b) Provide information as requested in PART 3 – Bid Preparation Instructions and instructed by Annex G - Table of Bid Deliverables.

4.2.2 Financial Evaluation

SACC Manual Clause A0220T (2014-06-26), Evaluation of Price

Detailed Financial Presentation Sheet at Annex D must be completed and submitted with the bid.

4.3 Basis of Selection

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical 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. 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 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 provided will render the bid non-responsive.

5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real procurement agreement of the *Ineligibility and Suspension Policy* (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politiquepolicy-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](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#) (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

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

PART 6 - RESULTING CONTRACT CLAUSES

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

6.1 Security Requirements

There is no security requirement applicable to this Contract.

6.2 Requirement

The Department of Fisheries and Oceans – Canadian Coast Guard Service has a requirement for the provision of five (5) SOLAS RIB as per the Technical Statement of Requirement (Annex A) and the Basis of Payment Annex B.

6.2.1 Optional Boats

The Contractor grants to Canada the irrevocable option to acquire up to ten (10) boats with trailers as described at Annex A of the Contract under the same conditions and at the prices stated in *Annex B* of the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

The Contracting Authority may exercise the option within twelve (12) months after delivery of first boat by sending a written notice to the Contractor.

6.3 Standard Clauses and Conditions

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

6.3.1 General Conditions

2030, 2016-04-04, General Conditions - Goods (High Complexity), apply to and form part of the Contract.

6.3.2 Supplemental General Conditions

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

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

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

“The warranty periods for the vessel, from the date of its delivery to and acceptance by Canada, are:

- a) Twelve (12) months for the boat propelling machinery and auxiliaries, fittings and equipment of all kinds (excluding Government Supplied Material).
- b) Twenty four (24) months for the vessel hull and welding.”

6.4 Term of Contract

6.4.1 Delivery

All the deliverables must be received on or before June 1, 2019.

6.4.2 Delivery location

CCGS
Institution of Ocean Sciences
9860 West Saanich Road
Sidney, BC V8L 4B2
Attn: Ken Aker

The Contractor shall give the Departmental Representative at least two weeks' notice before the delivery of the parts to the site.

6.4.3 Preparation for Delivery

Preparation for delivery and packaging are to be to the highest manufacturer's standard for the mode of transportation utilized, to ensure safe arrival at final destination.

6.4.3 Shipping Instructions - Delivery Duty Paid

1. Goods must be delivered DDP – Delivered Duty Paid, Incoterms 2000 to the destination(s) specified in 6.4.2 of the Contract.
2. The Contractor is responsible for all delivery charges from the Contractor's facility to destination, including administration costs, insurance and risk of transport.

6.4.5 Failure to keep the Contracting Authority informed

As the delivery date is an essential part of this contract, except for excusable delays notified in accordance with Article 06 (Time of Essence) of 2010A, failure to communicate any changes to the delivery schedule specified in this contract will prejudice Canada and will, at Canada's discretion, entail either:

- a. Contract Termination in accordance with General Conditions 2010A Article 06 (Time of the Essence) and Article 23 subsection 4, (Default by the Contractor), and the Contractor will be liable to Canada for all losses and damages suffered by Canada because of the default or occurrence upon which the notice was based, including any increase in the cost incurred by Canada in procuring the Work from another source; or
- b. Consideration for Contract Amendment. Delivery date(s) will not be extended without consideration being provided by the Contractor in the form of adjustment to the price, warranty, and/or services provided.

6.4.6 Period of the Contract

The period of the contract is from date of contract award to _____ (365 days later) inclusive.

6.4.7 Optional Goods and/or Services

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

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

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Dave Castle
Supply Specialist
Public Works and Government Services Canada
Marine Acquisitions
401-1230 Government Street
Victoria, BC V8W 3X4

Telephone: 250-217-6555

E-mail address: david.castle@pwgsc-tpsgc.gc.ca

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

6.5.2 Technical Authority

The Technical Authority for the Contract is:

Name: TBD
Title: TBD
Organization: TBD
Address: TBD
Telephone: TBD
Facsimile: TBD
E-mail: TBD

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

6.5.3 Contractor's Representative

Name and telephone numbers of the person responsible for production:

Name: _____ Telephone No: _____

Facsimile No.: _____ E-mail: _____

Name and telephone numbers of the person responsible for delivery:

Name: _____ Telephone No: _____

Facsimile No.: _____ E-mail: _____

6.6 Payment

6.6.1 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 of \$ _____. Customs duties and Applicable Taxes are extra, if applicable.

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

6.6.2 Charge-out Labour Rate / Material Mark-up

The following rates are included in the Basis of Payment and must remain valid for the duration of the contract:

Charge-out Labour Rate: \$_____ per hour

Mark-up on Materials and Sub-Contracts: 10%

6.6.3 Unscheduled Work:

a) Price Breakdown:

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

b) Pro-rated Prices:

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

c) Payment for Unscheduled Work:

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

6.6.3.1 Number of hours (to be negotiated) X \$_____, being the Contractor's firm hourly charge-out labour rate which includes overhead and profit, plus net laid-down cost of materials to which will be added

a mark-up of 10 percent, customs duties are included and applicable taxes are extra. The firm hourly charge-out labour rate and the material mark-up will remain firm for the term of the Contract and any subsequent amendments.

6.6.3.2 Notwithstanding definitions or usage elsewhere in this document, or in the Contractor's Cost Management System, when negotiating *Hours* for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package. Elements of *Related Labour Costs* identified in 6.3.3.3, will not be negotiated, but will be compensated for in accordance with 6.3.3.3.

6.6.3.3 Allowance for *Related Labour Costs* such as: Management, Direct Supervision, Purchasing and Material Handling, Quality Assurance and Reporting, First Aid, Gas Free Inspecting and Reporting, and Estimating will be included as *Overhead* for the purposes of determining the *Charge-out Labour Rate* set out in clause 6.6.2

6.6.3.4 The 10% mark-up rate for materials will also apply to subcontracted costs. The mark-up rate includes any allowance for material and subcontract management not allowed for in the Charge-out Labour Rate. The Contractor will not be entitled to a separate labour component for the purchase and handling of materials or subcontract administration.

6.6.4 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.

6.6.5 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.

6.6.6 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.

6.6.7 Method of Payment - Multiple Payment

Canada will pay the Contractor upon completion and delivery in accordance with the payment provisions of the Contract if:

- a. an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all such documents have been verified by Canada;
- c. the Work delivered has been accepted by Canada.

6.6.8 Electronic Payment of Invoices – Contract

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

- a. Direct Deposit (Domestic and International);
- b. Electronic Data Interchange (EDI);
- c. Wire Transfer (International Only);

6.7 Invoicing Instructions

The Contractor must submit invoices in accordance with the information required in Section 13 of 2030 General Conditions Higher Complexity Goods.

Invoice is to be made out to:

Canadian Coast Guard
Marine Engineering, Integrated Technical Services

200 Kent Street – 7th Floor K1A 0E6
Ottawa, Ontario
Attention: **TBD**

Original invoice is to be sent for verification to:

Public Works and Government Services Canada
Marine Acquisitions
Email the invoice to Pac.marine@pwgsc.gc.ca
Please note the contract number in the subject line of the email.

6.7.1 Warranty Holdback

A warranty holdback of 3% will be applied to the claim(s) for payment. This holdback is payable by Canada upon the expiry of the warranty holdback period of 90 days applicable to the Work. Goods and Services Tax or Harmonized Sales Tax (GST/HST), as appropriate, are to be calculated and paid on the total amount of the claim before the 3 percent holdback is applied. At the time that the holdback is released, there will be no GST/HST payable, as it was included in the previous payments.

6.7.2 Outstanding Work Holdback

In addition to any amount held under the Warranty Holdback Clause, a holdback of twice the estimated value of outstanding work will be held until completion of the Work. Applicable Taxes will be calculated on this outstanding work holdback amount and paid at the time that the outstanding work holdback is released.

6.8 Certifications

6.8.1 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.

6.9 Welding Certification – Contract

1. The Contractor must ensure that welding is performed by a welder certified by the Canadian Welding Bureau (CWB) in accordance with the requirements of the following Canadian Standards Association (CSA) standards:
 - (a) CSA W47.2 (current version), Certification for Companies for Fusion Welding of Aluminum
2. In addition, welding must be done in accordance with the requirements of the applicable drawings and specifications.
3. Before the commencement of any fabrication work, and upon request from the Inspection Authority, the Contractor must provide approved welding procedures and/or a list of welding personnel he intends to use in the performance of the Work. The list must identify the CWB welding procedure qualifications attained by each of the personnel listed and must be accompanied by a copy of each person's current CWB welding certification.

6.10 Project Schedule

1. The Contractor must provide a detailed project schedule in MS Project format or equivalent to the Contracting Authority and the Technical Authority **5 days after award of Contract**. This schedule must highlight the specific dates for the events listed below.
 - (a) hull materials delivered to Contractor and sustained construction commenced;
 - (b) hull and deck completed, but not closed in to allow for full inspection of the structure and welding. The Contractor must supply a hard copy of the material certificates and construction drawings to the Technical/Inspection Authority one week prior to inspection by the Technical/Inspection Authority;
 - (c) outfitting/electrical 75% complete but all equipment and components delivered to the Contractor and available for full inspection. The Contractor must supply a hard copy of the list

- of equipment and electrical supplies to the Technical/Inspection Authority one week prior to inspection by the Technical/Inspection Authority;
- (d) technical manuals delivered to Canada for approval (no less than 14 days prior to the planned delivery date);
- (e) Contractor's tests and trial and final sea trials required by the SOW;
- (f) boat and trailer delivered to Canada for approval;
- (g) the start and the end of the twelve (12) month warranty period.

Note: Technical Manuals will not be returned once approved.

2. 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.

6.11 Progress Reports

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 (2) 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 a clarification.

- (b) PART 2: A narrative report, brief, yet sufficiently detailed to enable the Technical Authority to evaluate the progress of the Work, containing as 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) reasons for any variation from the schedule.

6.12 SACC Manual Clauses

B9035C - Progress Meetings	2008-05-12
B5007C - Procedures for Design Change or Additional Work	2010-01-11
D3015C - Dangerous Goods/Hazardous Products	2007-11-30
D0018C - Delivery and Unloading	2007-11-30
C0711C - Time Verification	2008-05-12

6.13 Trade Qualifications

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

6.14 Quality Management Systems

1. The Contractor must have in place a Quality Assurance Program approved by the Inspection Authority during the performance of the Work which addresses the quality control elements below.
2. The quality control elements must include, as a minimum:
 - Quality Assurance Manual or Quality Assurance Program Descriptions
 - Inspection and Test Plan
 - Final Inspection
 - Quality Records

3. The Contractor's facilities may be audited by Canada, or its authorized representative, during the performance of the Work to ensure that the approved system is in place and in accordance with the foregoing requirement.
4. The Contractor will be required to submit completed quality assurance documentation with each claim for payment as applicable.

6.15 Post Contract Award/Pre-Production Meeting

Within three (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 via telephone or video conference. The Cost of holding such a pre-production meeting must be included in the price of the bid. Please note that the travel and living expenses for Government Personnel will be arranged and paid for by the Canada.

6.16 Manuals

1. The Contractor must obtain and deliver to the Technical Authority for approval, all Data Books, Operating Instruction Books, Maintenance Manuals and Spare Parts Lists (including part numbers and ordering instructions) for all machinery and equipment fitted on the Vessel as required. Once approved by the TA, the Contractor must provide two (2) complete copies in accordance with and as specified in the **Annex A**.
2. Where manuals are examined by Canada, such examination does not relieve the Contractor of any responsibility under the Contract for ensuring the correctness of all details and adequacy of performance of the Vessel, nor does it obligate Canada to accept, in whole or in part, an item of Work completed in accordance with such manual, nor does it mean such an item of Work meets the requirements of Annex A.

6.17 Inspection, Test & Trials

1. During Construction of the vessel, the Contractor must arrange for regular inspections and upon completion of the construction of the vessel, the Contractor must arrange trials. All Inspections and test and trials performed must be in accordance with the SOW and the **Annex C** - Inspection/Quality Assurance/Quality Control. The Inspection Authority must approve any additional testing not specified in the SOW.
2. The Contractor must update as required the Inspection and Test Plan (ITP) provided with its bid and submit to the Contracting Authority and the Inspection Authority seven (7) days after contract award for review and approval.
3. Once approved, any modification to the ITP must be pre-approved by the Inspection Authority. A revised ITP will be required should any modification be made.

6.18 Government Supplied Material

As per the [TSOR, Article 10](#), the Contractor must install, as per the manufacturer's recommendations, the noted GSM.

6.19 Insurance Requirements

The Contractor must comply with the insurance requirements specified in **Articles 6.19.1** and **6.19.2** below. 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. Coverage must be placed with an Insurer licensed to carry out business in Canada. The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

6.19.1 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 Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
 - (k) If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
 - (l) Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.
 - (m) Litigation Rights: Pursuant to subsection 5(d) of the Department of Justice Act, S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

For the province of Quebec, send to: Director Business Law Directorate,
Quebec Regional Office (Ottawa),
Department of Justice,
284 Wellington Street, Room SAT-6042, Ottawa, Ontario, K1A 0H8

For other provinces and territories, send to: Senior General Counsel,
Civil Litigation Section, Department of Justice
234 Wellington Street, East Tower
Ottawa, Ontario K1A 0H8

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

6.19.2 Marine Liability Insurance

1. The Contractor must obtain Protection & Indemnity (P&I) 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 assessed any additional levy, extra assessment or super-assessment by a Worker's Compensation Board, 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 Department of Fisheries and Oceans 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 Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of cancellation.
 - (d) 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.
 - (e) Litigation Rights: Pursuant to subsection 5(d) of the Department of Justice Act, S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause,

have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

For the province of Quebec, send to: Director Business Law Directorate,
Quebec Regional Office (Ottawa),
Department of Justice,
284 Wellington Street, Room SAT-6042, Ottawa, Ontario, K1A 0H8

For other provinces and territories, send to:

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

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

6.20 Applicable Laws

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

6.21 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.

1. The Articles of Agreement;
2. The Supplemental General Conditions **1028**, **2010-08-16**, Ship Construction - Firm Price;
3. The General Conditions **2030**, **2016-04-04**, Goods (Higher Complexity);
4. Annex A – Technical Statement of Requirements;
5. Annex B – Questions and Answers;
6. Annex C – Inspection/Quality Assurance/Quality Control
7. Annex D – Detailed Financial Presentation Sheet
6. The Contractor's bid dated _____.

6.22 Acceptance

1. The Inspection Authority, in conjunction with the Contractor, will prepare a list of outstanding work items at the end of the vessel's construction period. This list will form the annexes to the formal acceptance document for the vessel. A vessel acceptance meeting or telephone conference will be convened by the Inspection Authority on the work completion date of the vessel to review and sign off the form PWGSC-TPSGC 1105, Contractor's Certification.
2. The Inspection Authority must complete the above form and obtain the signatures of the Contractor and the Contracting Authority. The form will then be distributed by the Inspection Authority as follows:
 - a. one copy to the Contracting Authority;
 - b. one copy to the Technical Authority;
 - c. one copy to the Contractor.

DEPARTMENT OF FISHERIES AND OCEANS

ANNEX A

Technical Statement of Requirements **Requisition number F7044-170075**

For the provision of:

**Five (5), 8.0 to 8.2 m GRP
Fast Rescue Rigid Inflatable Boats,
Twin Outboard SOLAS/IMO Certified
with trailer**

February 9, 2018

**TRANSPORT CANADA MARINE SAFETY BRANCH (TCMS)
TP1332 APPROVED CONSTRUCTION**

Document Control

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ABBREVIATIONS

ABYC	American Boat and Yacht Council
AC	Alternating Current
ASTM	American Society for Testing and Materials
CFM	Contractor Furnished Material
CSA	<i>Canada Shipping Act</i>
CSA	Canadian Standards Association
COLREGS	Collision Regulations
DC	Direct Current

GRP	Glass Reinforced Plastic
GPS	Global Positioning System
GSM	Government Supplied Material
IMO	International Maritime Organization
ISO	International Organization for Standardization
LSA	Life-Saving Appliance
PVC	Polyvinylchloride
RIB	Rigid Inflatable Boat
SOLAS	Safety of Life at Sea
TA	Technical Authority (As defined by the Contract)
TCMS	Transport Canada Marine Safety
TSOR	Technical Statement of Requirements
UV	Ultraviolet
VHF	Very High Frequency
WMO	World Meteorological Organization

LIST OF REFERENCE DOCUMENTS

REFERENCE	TITLE
SOLAS	The latest edition of the International Convention for the Safety of Life at Sea, 1974, and its Protocol of 1988: articles, annexes and certificates, as amended.

IMO Resolution MSC.81(70)	Annex to International Maritime Organization Resolution MSC.81(70), Revised Recommendation on Testing of Life-Saving Appliances.
LSA Code	Annex to International Maritime Organization Resolution MSC.48(66), International Life-Saving Appliance Code.
ASTM F1166	Standard Practice for Human Engineering Design for Marine Systems, Equipment and Facilities.
TP 1332	Construction Standards for Small Boats.
TP 13430	Standard For Tonnage Measurement of Ships .
TP 14070	Small Commercial Vessel Safety Guide.
TP 14612	Procedures for approval of life-saving appliances and fire safety systems, equipment and products.
TP 14475	Canadian Life Saving Appliance Standard.
ISO 12217-3	Small Craft – Stability and Buoyancy Assessment and Categorization.
Canada Shipping Act	Small Vessel Regulations
Canada Shipping Act	Collision Regulations (COLREGS)
ABYC	American Boat and Yacht Council Standards
Canadian Standards Association (CSA) CSA W47.2-M1987	Certification of Companies for Fusion Welding of Aluminium
(CSA) C22.2 No. 183.2-M1983 (R1999)	Standards for DC Electrical Installations on Boats
CT-043-EQ-EG-001-E	Canadian Coast Guard Welding Specification, August 2017

1.0 OVERVIEW

1.1 Rigid Inflatable Boats (RIBs) are used extensively as auxiliary craft for Government Service vessels, as well as operating independently to carry out various program-related activities from shore-based facilities and trailers.

- 1.2 The Missions of the craft include Rescue Craft, and Emergency Boat duties, including:
- 1.2.1 Perform searches and surveillance by visual and electronic means;
 - 1.2.2 Recover able-bodied or incapacitated people from other vessels and from the water;
 - 1.2.3 Tow equipment and other vessels in emergencies;
 - 1.2.4 Conduct helicopter hoisting operations;
 - 1.2.5 Provide a platform for performing first-aid; and
 - 1.2.6 Mustering of life rafts and lifeboats.

2.0 REQUIREMENT

- 2.1 **General Information: This vessel is intended to be built based on stock small working or commercial vessel hull forms with a minimum of customization as indicated herein. Prototype hulls will not be considered for this procurement. A number of proven hulls must be shown to have been produced and be in service for 5 years for the Contractor to indicate suitability of the hull for this procurement. Bidders must submit brochures, photographs, references, builder's plates, hull identification numbers confirming multiple builds, etc. as applicable.**
- 2.2 The Contractor must design, fabricate and supply quantity, five (5) 8.0-8.2m GRP Fast Rescue Rigid Inflatable Boats and ten (10) optional RIBs, SOLAS/IMO Certified based on the requirements as identified by Transport Canada Marine Safety Branch (TCMSB) Marine Safety Publications TP 14612 and TP 1332. The RIBs must be a twin outboard motor configuration.

2.3 TECHNICAL & DOCUMENTATION REQUIREMENTS

The Contractor is responsible for all aspects of design and production of the vessel and must prepare their own Project Data Package to define the vessel and control the production process.

2.3.1 Bid Deliverable Data Package

Requirements for Bid Deliverables are given in the Solicitation Document and applicable Annexes.

2.3.2 Preliminary Data Package

The Preliminary Data Package must demonstrate that the vessel will be fully seaworthy, operable and fit in all regards for the purposes intended. The Contractor must submit their Preliminary Data Package for review by the Technical Authority and in accordance with the Contract.

In addition to any requirements given in the Contract and applicable Annexes, the Preliminary Data Package must include, but will not necessarily be limited to, the following technical drawings and information:

2.3.2.1 Either; A valid Certificate of Approval issued by Transport Canada in accordance with the approved product catalogue for Life Saving Equipment and as identified in the SOLAS Rescue Boat product category.

2.3.2.2 A general arrangement.

- 2.3.2.3 Structural Drawings showing Deck Plan, a Centerline profile.
- 2.3.2.4 A detailed Lines Plan.
- 2.3.2.5 A drawing of the fuel supply arrangement.
- 2.3.2.6 A drawing of bilge pumping system
- 2.3.2.7 Electrical one-line diagram.
- 2.3.2.8 The lightship weight.
- 2.3.2.9 Draft Stability Calculation of the proposed vessel.
- 2.3.2.10 A Project Plan (written description) of how the Bidder/Contractor will comply with the TSOR. The written description must address each main element of the TSOR and indicate how the Bidder/Contractor will comply with the intent of the TSOR and successfully deliver the vessel(s) to the performance standard(s) identified.
- 2.3.2.11 A Preliminary Production Schedule which must verify the Bidder/Contractor's ability to deliver the vessel(s) in accordance with the requirements of the Solicitation.

2.3.3 Construction Data Package

The Contractor must revise and update their Preliminary Data Package to incorporate comments from the Technical Authority and must complete and submit their Construction Data Package to the Technical Authority. The Contractor must update their Construction Data Package to reflect changes in the requirement and/or changes in materials or equipment as necessary or when requested.

In addition to any requirements given in the Contract and applicable Annexes, the Construction Data Package must include, but will not necessarily be limited to, the following technical drawings and information:

- 2.3.3.1 All technical drawings and information identified within the Preliminary Data Package, updated as necessary (excepting that the project plan need not be revised);
- 2.3.3.2 The Preliminary Production Schedule must be expanded to a Production Schedule which must be regularly updated to demonstrate progress of the work and anticipated completion date;
- 2.3.3.3 Lightship weight and center of gravity calculations must be monitored and the Technical Authority must be advised of changes as they are identified;
- 2.3.3.4 Stability calculations must be revised when necessary or when requested;
- 2.3.3.5 Speed and endurance calculations;
- 2.3.3.6 Additional technical drawings, schedules and information as necessary to fully define the vessel;
- 2.3.3.7 Contractor shop drawings;
- 2.3.3.8 Technical information pertaining to materials and equipment;
- 2.3.3.9 Material certificates; and,
- 2.3.3.10 Other applicable technical information including samples of materials if requested.

2.3.4 Final Data Package

The Contractor must provide to Canada all documentation required by the Contract, this TSOR and other annexes or attachments to the Contract.

The minimum acceptable final data package is as attached hereto at Appendix I.

3.0 DESIGN AND CONSTRUCTION REQUIREMENTS

Unless stated otherwise all components, equipment and material must be Contractor supplied.

3.1 ERGONOMIC DESIGN

3.1.1 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.

3.1.2 The boats must be designed and constructed to accommodate both male and female crew from approx. 5' 5" to 6' 4" 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.

3.1.3 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 as per ASTM F1166-07.

3.2 VIBRATION

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

3.2.2 Mounts for movable components, including items moved for stowage, towing or transport must be provided with resilient material as necessary to prevent rattling.

3.2.3 Loosening of fasteners under vibration must be prevented by the use of self-locking fasteners.

3.3 EQUIPMENT PROTECTION

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

3.4 SITE CLEANLINESS

During construction, all chips, shavings, refuse, dirt and water must be removed at the completion of the work shift or sooner. The Contractor must ensure measures are taken to avoid wear and damage incident to construction, and to prevent

corrosion or other deterioration. Equipment subject to freezing must be kept drained, except during test and trials. Equipment must be kept clean and protected from the environment prior to installation.

3.5 MATERIALS

3.5.1 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 must not be used in the construction of the vessel.

3.5.2 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.

3.5.3 Aluminium: Aluminium alloy types 5086-H116 must be used for plate; aluminium alloy 6061-T6 or 6063-T54 for aluminum extrusions. 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 saltwater marine use such as dual rated 5083 / 86 or 5052 or 6063.

3.5.4 GRP and Resins - for GRP components;

3.5.4.1 Minimum laminating material specification must include vinylester resins with a foam core. DCPD and orthophalic resins must not be used.

3.5.4.2 Fibre materials to be standard mat / rovings, or "stitch" combined materials, some of which may use Carbon or Kevlar strands. NO "chopper" materials to be used.

3.5.4.3 Coring materials to be vacuum bagged in place and to be designed for usage in these specified vessels. Suitable core materials such as 'Airex', 'Klege-cell', and 'Core-cell' are acceptable. Marine plywood core material for the deck and transom must be used. Balsa and non-structural foam materials must not be used.

3.5.5 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.

3.5.6 Fittings and clamps must be stainless steel. Bolts used in all fittings must be Type 316 stainless steel.

3.5.7 Where flexible connections are required for steering and fuel systems, suitable hose with permanently crimped, detachable reusable type fittings must be used.

3.5.8 All materials and equipment must be stored installed and tested in accordance with the manufacturer's guidelines, recommendations and requirements.

3.6 FASTENERS

3.6.1 All fasteners must be of corrosion resistant materials.

3.6.2 Cadmium plated parts and fasteners, including washers, must not be used.

3.6.3 Direct attachment of alloys containing copper to aluminium is not permitted

except for an electrical bonding strap.

3.6.4 No fasteners must be directly threaded into Aluminum. Aluminium or Stainless steel washers or backing plates must be used as appropriate.

3.6.5 Where nuts will become inaccessible after assembly of the vessel, nuts must be captured or anchored to allow reassembly and prevent backing off. Unless otherwise specified, self-locking nuts must be installed to prevent loosening of fasteners due to shock and vibration.

3.6.6 Fasteners in deck traffic areas must be flush-mounted to eliminate tripping and snagging hazards.

3.7 FACILITIES (GRP lamination, Collar and Painting facilities)

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

4.0 OPERATIONAL REQUIREMENTS

4.1 GENERAL

Unless otherwise stated, performance must be for conditions of zero sea state and no wind, in salt water in normal load condition. The boats must be designed and constructed for ease of maintenance and repair, long life, and are to be easily supportable in the location of the delivery address of the boat, by local commercial facilities and suppliers. The boat must be expected to have a service life of at least 8 years, with an expected usage of between 400 and 500 hours per year. . Life cycle costing projections must be supplied by manufacturer with their proposal, particularly for hull, collar, propulsion, steering and other components and systems.

4.1.1 Maximum speed: 40 knots - 45 knots.

4.1.2 Outboard motor RPM: The Contractor must select and provide propellers for the specific outboard brand mounted to each RIB (Evinrude, Mercury or Yamaha) to attain the associated maximum RPMs at full throttle.

4.1.3 Minimum speed: 20 knots in sea state 6 with 25-knot wind.

4.1.4 Endurance: 35 knots for 4.5 hours.

4.1.5 Range: 200 nautical miles with 10% reserve at 25-knot minimum speed.

4.1.6 Steering: Capable of steering 15 degrees from heading, Beaufort force 7, with seas from any direction.

4.1.7 Steer and manoeuvre effectively at 3 knots in Beaufort force 7.

4.1.8 Maintain course, made good over ground, when proceeding at 3 knots with relative crosswind of 33 knots.

4.1.9 Capable of turning in its own length in Beaufort force 7.

4.1.10 Capable of steering effectively in Beaufort force 7 with winds of 30 knots while holding a 15 tonne (displacement) vessel in position.

4.2 BEACHING

4.2.1 Capable of beaching on soft (sand, earth or clay) surfaces at a speed of up to 5 knots without damage to the hull.

4.2.2 Capable of beaching on hard (stone or concrete) surfaces at speeds of up to 3 knots without damage to the hull.

4.3 ENVIRONMENTAL CONDITIONS

Capable of operating day or night in the following conditions:

4.3.1 Average ambient air temperature range: -5 ° C to + 30 ° C

4.3.2 Average water temperature: 0 ° C to +20 ° C.

4.3.3 Wave heights up to 5.5 meters (Beaufort Force 7).

4.3.4 Wind speeds of 28-33 knots.

4.3.5 Operate in freezing spray or freezing rain with accumulations of up to 6.0 mm while maintaining stability to allow for safe transit in Beaufort force 7

4.3.6 Required to operate safely in ice infested waters, (some minor damage to the craft not affecting stability or buoyancy will be acceptable).

4.4 LAUNCHING, RECOVERY & TRANSPORTATION

The craft must be readily road transportable on a trailer, must be able to be launched and recovered using the trailer at existing launch ramps.

4.5 MAINTENANCE

The craft must be designed and constructed for ease of maintenance and repair, long life, and be easily supportable by local commercial facilities and suppliers.

5.0 PHYSICAL CHARACTERISTICS

5.1 VESSEL PARTICULARS

5.1.1 Length overall between 8.0 and 8.2 meters.

5.1.2 Breadth overall between 2.7 and 2.75 meters.

5.1.3 Maximum draft (outboard motor or outdrive lowered) between 0.80 and 0.90 meters.

5.1.4 Maximum draft (outboard motors raised) between 0.50 and 0.75 meters.

5.1.5 Maximum freeboard (from top of collar AFT, in normal load condition) 0.70 meters.

5.1.6 Depth under Keel:

5.1.6.1 Operate carefully in depths of 1.0 meter with outboard motors lowered.

5.1.6.2 Basic manoeuvring in depths of 0.80 meters with outboard motors in the partially raised position.

5.1.7 Maximum height of collar above deck 0.60 meters

5.1.8 Displacement (Normal Load Condition) between 3100 kg and 3300 kg.

5.1.9 Normal load conditions:

5.1.9.1 Crew of 3 = 300 kg

5.1.9.2 Fuel = 500 liters in two tanks, (440 kg)

5.1.9.3 Equipment & supplies = 400 kg

6.0 CONSTRUCTION STANDARDS

The Contractor must supply a valid Certificate of approval for a SOLAS Recue Boat meeting the requirements of this TSOR.

Boats constructed under this TSOR must comply with the following:

6.1.1 SOLAS Regulations:

- 6.1.1.1 Part 1, Chapter III, Regulation 4;
- 6.1.1.2 Part 1, Chapter III, Regulation 26.3;
- 6.1.1.3 Part 1, Chapter III, Regulation 34.

6.1.2 IMO Resolutions:

- 6.1.2.1 Res. 48(66)LSA Code;
- 6.1.2.2 Res. MSC.81(70) and;
- 6.1.2.3 Res. MSC/Circ 809.

6.1.3 The current TCMS TP 1332 “Construction Standards for Small Vessels” and where applicable the American Boat & Yacht Council (ABYC)

6.1.4 CSA C22.2 No. 183.2-M1983 (R1999) Standards for DC Electrical Installations on Boats and ABYC ‘E’ Electrical Standards.

6.2 Transport Canada Marine Safety Regulation TP 1324 Coated Fabrics as a minimum however, if the IMO requirements exceed those of TP1324, the more stringent of the two must take precedence.

6.3 CSA W47.2-MI987: Certification of Companies for Fusion Welding of Aluminium; Welding to be done by contractor with shop certified to this standard.

6.4 Stability examination per TP1332 (from ISO standards 12217-1) will require the Contractor to record all stability calculation and trial results and provide a copy for each boat produced, to be placed in the technical manuals.

7.0 VESSEL CONFIGURATION

Open RIB, Delta console configuration with shock mitigating seats for three (3) crew.

7.1 HULL

7.1.1 Hull shape must not impede water flow to the propulsion units and must direct spray and waves away from onboard personnel.

7.1.2 Watertight and Tank Bulkheads: The hull design must be such that a sufficient number of watertight compartments, including hull compartments, and/or low smoke and flame spread closed cell flotation foam, or fire retardant flotation, or flotation devices, will allow for adequate stability and positive buoyancy in a flooded condition. See references to vessel certification, re: TP 1332 / ISO testing.

7.1.3 Self-Righting System: Must be built and installed per the requirements in Section 9.0.

7.1.4 Seats must be designed to support a person of 150 kg.

7.1.5 The consoles must be fitted leaving sufficient unobstructed forward deck space to allow for securing a basket litter or similar device, with sufficient access alongside the device to carry out First Aid to a patient within. As a minimum the forward deck space must allow for the placement and storage of a Ferno model 71 basket stretcher to lay flat on the deck lengthwise, forward deck port side, therefore the forward console must be notched to accommodate this requirement. Sufficient unobstructed space must remain aft of the aft console to provide safe access to towing arrangements and propulsion equipment.

7.1.6 Space between console and sponson must be sufficient for safe passage of personnel, without being necessary to stand or walk on the console or sponson.

7.1.7 The layout of the console(s) must take into account ergonomic considerations, with easy viewing and access to all critical instruments and controls.

7.1.8 An overall cover for console to include seats and controls must be provided.

7.2 SEATING

7.2.1 Delta console version fitted with shock mitigating seats for three (3). The operator seat must be 'Jockey' style, located on centreline aft of the control console, ahead of two similar seats located side-by-side at aft console. The seat must have 150 mm of vertical travel supported by seat frame guides, fitted with an adjustable shock absorber capable of accommodating from the 5th percentile female to the 95th percentile male. Complete seats must weigh no more than 23 Kgs. All material used in the seats must be non-corroding including the shock and roller guides. There must be a backrest included on the seats. The backrest must have the same style of foam used on the seat cushion. The two aft seats must have a grab handle fitted at the top of each backrest. The back must be no wider than approximately 325mm. The seat angle must be no greater than 5 degrees from the deck. The shock absorbers must be easily removed for service and replacement. Shockwave S2 Series seats meet this requirement.

www.ShockwavesSeats.com

7.2.2 The three console seat bases must allow for the storage of equipment, with full length straight pin hinges and adequate latch points per storage lid used as a seat mount. Latches must be recessed into the moulded box bases. Seat tops must have a method of assisting in opening and closing. This can be accomplished by the use of an "air assist" strut. On the operator console, one moulded recess on the starboard side must be available for the 406 Emergency Position Indicating Radio Beacon (EPIRB). The fire extinguisher must be mounted on the inside of the operator console on the port side and be mounted with fiberglass brackets. Delta seats aft to hinge on the aft edge of the mounting box. Helm seat box to hinge on the port side.

7.2.3 The cushions must be constructed of moulded foam with a skinned waterproof surface that has a built in non-skid pattern.

7.2.4 A proven shock-absorbing mat must be fitted from the forward edge of the operator's console aft to the lazarette transom. The material from Skydex® meets this requirement.

https://www.skydex.com/markets_products/commercial_industrial/boat_decking

7.3 CONSOLES; GENERAL

7.3.1 The consoles must be fabricated to low weight, high strength specifications from GRP.

7.3.2 The consoles must be fitted so as to provide proper access for hoisting arrangements.

7.3.3 There must be three (3) foldable coffee cup holders provided, one located on each of the three consoles.

7.3.4 Engine controls must be situated on a binnacle to the starboard side of the operator's console, (see 7.4), situated in such a manner that the operation of one control, or the steering wheel, must not inadvertently activate or deactivate any of the other controls.

7.3.5 Hinged seat bases must be approximately 320 mm in height above deck at the mounting base of the seats. The aft console must have seat bases for two seats aft of the single enclosure for the electronics equipment. The enclosure width of the combined console to be approximately 1050 mm. There must be two hatches incorporated on forward face of aft console, P&S, allowing access to the lower part of the console and a hatch centreline aft, between the seat base / boxes, to allow access to the fuel tank top access port. There must be handles fitted, on each outboard side of aft console, that run across the top and form the inboard handle attaching to the top of the console. There must be weather protective hinged see through covers to lift for access to the console top flange mount installation of electronics. A clear protective panel must be fitted in the weather cover.

7.3.6 The starboard electronics position must be fitted with easily accessible, weather protected mounting for a 16 nautical mile radar display with an interfaced global positioning system (GPS) display. See section 16 for electronics detail.

7.3.7 The port electronics position must be fitted with easily accessible, weather protected mounting for an interfaced display and/or maritime very-high-frequency (VHF) radio.

7.3.8 Storage within the consoles is required, therefore wiring must be protected with removable cover plates to maximise internal storage space without damaging electrical cables.

7.4 Operator Console:

7.4.1 Regulatory equipment;

7.4.1.1 A 2-¾ inch dia. damped card magnetic compass, lighted and adjustable for deviation. Ritchie model F83 will meet this requirement.

7.4.1.2 A Deviation Card to be contractor supplied.

7.4.1.3 A Regulatory compliant electric horn, Ongaro or equal.

7.4.2 Engine equipment;

7.4.2.1 Individual keyed ignition switches with emergency stop clip and lanyard for each engine. A second set of spare keys must be provided with each RIB. Key switches must be placed and protected such that the operator does not damage or break the keys during RIB operations.

7.4.2.2 Tachometer for each engine, and alarms.

7.4.2.3 Water pressure gauge.

7.4.2.4 Tilt / trim gauge for propulsion unit.

7.4.2.5 An hour meter for engine.

- 7.4.2.6 Fuel level gauge for each fuel tank.
- 7.4.2.7 Battery voltage meters for each battery.

7.4.3 Other equipment

- 7.4.3.1 A depth sounder as detailed in the electronics section 9.7.2
- 7.4.3.2 A minimum 10-breaker circuit panel, weather protected, waterproof faced.
- 7.4.3.3 Separate waterproof dimmer switches for the compass and engine instruments.
- 7.4.3.4 All alarms and visual indicators to be mounted in plain view of operator's position and must be waterproof.
- 7.4.3.5 Various labels and notices are required for the vessel as per TP 1332, and IMO regulations.

8.0 CONSTRUCTION

8.1 MINIMUM LAMINATION REQUIREMENTS

Hull, Deck and Console Material

- 8.1.1** Hull bottom - foam sandwich cored construction with solid laminate keel/stem and chine. The hull basic laminate requirements must be met as identified on the approved SOLAS certified construction drawings for this RIB;
- 8.1.2** Rigid hulls must be constructed of fibre / glass-reinforced plastic (FRP) using fire rated Vinylester resin with a compatible fire-retardant gelcoat, complies with ASTM E-84 Class I flame spread);
- 8.1.3** The deck is to have certified (6:1 safety ratio based on the ultimate strength of materials and the IMO Rescue boat load condition) recessed lifting lugs installed;
- 8.1.4** The deck and hull must be laid up in female exterior molds, of compatible materials, meeting or exceeding approved laminate schedules, and the deck must have a suitable non-skid finish. The hull basic laminate minimum requirement is two units of 18 oz. roving with 1 oz. mat on both the outside and the inside of the hull core in addition to "skin out";
- 8.1.5** Laminate reinforcement must be E-Glass chopped strand mat and woven or knit roving;
- 8.1.6** The Gelcoat - isophthalic NPG (Neo Pentyl Glycol), color must be international orange to a depth of 20-22 mils;
- 8.1.7** The core material, other than transom core, is to be Polyvinyl Chloride foam, or equal. The core is to be installed as per the core manufacturer's specifications;
- 8.1.8** The transom core is to be reinforced using marine grade plywood of a total thickness of 2" that meets the requirements of Voluntary Product Standard PS 1-95: Construction and Industrial Plywood. In addition the plywood is to be pressure-preservative treated;
- 8.1.9** Decks must be self-draining, by means of freeing ports fitted with elephant trunk style non-return flaps. Freeing ports with mechanical closures (fiberglass only) to prevent water ingress while the vessel is stopped and must be constructed using 5" OD fiberglass pipe;

- 8.1.10** The deck above the watertight compartments must have bolted watertight access plates / hatches for easy removal to allow for repair of tanks or buoyancy compartments beneath, and separate access plates for inspection access to the fuel system components as per TP 1332;
- 8.1.11** Fuel tank spaces to have ventilation flow through from bow to stern (ignition protected fan assist on start-up);
- 8.1.12** Flush mounted deck tie downs will be fitted on the forward deck area for the securing of deck cargo, minimum of 4 required, 6 inch oval style;
- 8.1.13** The standard color of the hull, deck, collar, collar bow protector and console of the craft must be international orange, with retro reflective tape affixed as required. Upholstery on the seats must be black. All exposed aluminium surfaces must be matte black; and
- 8.1.14** Buoyancy foam must be Fire Rated (FR), or Low Smoke and flame spread, closed-cell foam installed to perform the required stability functions and isolated from fuel tank spaces by main girders or bulkheads with any foam accesses through these members closed by cover plates.

8.2 STOWAGE

- 8.2.1** A weather tight bow box for storage must be provided of approximately 7 cu. ft capacity and installed securely using fasteners. Due to frequent maintenance in way of the bow box, the design of securing must provide for removal and installation. A hinged weather tight lid must be fitted, to be secured using a Southco Stainless Steel Adjustable draw latch model A1-10-501-40 with keeper style "B" or equal. The lid must be a working deck, be top mounted and covered in non-skid to prevent slipping.
- 8.2.2** Arrangements must be provided for safe, secure and accessible stowage of an anchor and cable, paddles, and other equipment.
- 8.2.3** Weather tight stowage for small items of equipment must be provided in void spaces beneath seats, and where practicable, inside console(s)
- 8.2.4** All exterior stowage compartments must be lockable, secured by positive means and operable by gloved or insensitive hands.

8.3 BEACHING SHOE

General description - Kevlar / glass reinforced molded beaching shoe laminated in a female mold. Exterior gel coat finish is to be the same as the hull molding. Beaching shoe edges to be faired and gelcoated after bonding to the hull.

- 8.3.1** Width from hull centerline - 200 mm
- 8.3.2** Length - full length - from transom to underside of chine flat at bow.
- 8.3.3** Thickness of laminate - 5 mm total (excluding adhesive).
- 8.3.4** Laminate made up with one layer of 1808 biaxial knit glass reinforcement and minimum of 2.4 mm thickness of Kevlar needle punched felt reinforcement.
- 8.3.5** Resin type - Fire retardant vinylester resin with minimum of 50% shear elongation at break.
- 8.3.6** Gelcoat type - NPG isophthalic fire retardant gelcoat
- 8.3.7** Shoe to hull adhesive to be a methacrylate bonding putty, (ITW Plexus or equal) <http://www.itwplexus.com/home.html>

8.3.8 A non-chafing opening of approximately 5 cm diameter must be provided in the beaching shoe at the stem to accommodate the non-protruding bow eye.

8.4 BOW EYE

8.4.1 A system is to be designed and incorporated into the construction of the stem that allows for the bowline and or trailering hook to be attached to the bow and which must not protrude from the line of the stem. The fitting must be T316 stainless steel and of sufficient strength to allow for towing the vessel at a speed of 20 knots in calm water in the normal loaded condition, on an even keel without damaging the vessel or causing undue chafing of the towline.

8.5 TOW POSTS

The tow posts are to be stamped with the Safe Working Load (SWL) of each post, paint highlighted.

8.5.1 One tow post, for EMERGENCY towing, with towing bitts must be fitted aft, rated for 3000 lb. (1360 kg.), ahead of the thrust point of the craft.

8.5.2 One removable cruciform tow post (tow capacity 2,500 lb. minimum, 1130 kg.) is to be fitted at the bow.

8.6 COLLARS

8.6.1 Collar must be an inflatable type with at least 5 separate chambers, (except Miranda fitted collars that may require a foam billet tube section to resist tube deformation on-board ship), of approximately equal volume, each fitted with a suitable inflation system and over-pressure relief valves calibrated to 3.5 p.s.i. (The Halkey Roberts model 690BV, and Leaffield model C-7 inflation valves and the Mirada model B51019 3.5 psi. over pressure relief valve, meet this requirement).

8.6.2 Inflatable collars fitted must be constructed of material that meets the criteria for strength, elasticity, resistance to wear and longevity as defined in TP 1324 - Material Specification for Coated Fabric Used in Inflatable Life rafts. (1670 decitex Neoprene/Hypalon coated polyester fabric and must be International Orange in Colour. Retro-reflective tape must be affixed to the collar in an approved manner as required. There must be a non-slip coating applied to the collar material.

8.6.3 All seams are to be hand buffed and glued. Polyurethane sealant should be used on all interior seams and baffle edge.

8.6.4 Collars must be interchangeable and have a minimum diameter of 550 millimetres.

8.6.5 Inflatable collars must be attached to the hull using mechanical fasteners and clamping metal battens in such a manner that the collar can be easily removed for repair or replacement. The use of glue-on type collars is not acceptable.

8.6.6 Collar must be supplied with a transom tensioning strap.

8.6.7 Inflatable collars must be provided with protective rub guards all around. At least five extruded neoprene rubber, or equivalent, rubbing strakes (50 mm - 75 mm wide) must be glued along the entire length of the outboard side of

the collar to provide protection against abrasion and puncture. 'Bombard' or equal.

8.6.8 Grab lines of braided nylon construction ½" diameter, must be fitted along the collar on both the port and starboard sides to provide access from both within the boat and for persons in the water. Grab lines must be mounted on the centerline of the collar, by means of a lacing cuff (not by D-ring attachment), and must hang down 10 to 12 inches.

8.6.9 A repair kit must be provided for inflatable collars.

8.6.10 An easily replaceable collar bow protector to prevent scuffing in the bow area and back to midships must be fitted and constructed from hand glued 1670 Decitex Neoprene/Hypalon coated polyester fabric and must be International Orange in Colour. It must be fastened to the bow collar section with lacing at the top and bolted flange at bottom. It should wrap the bow (collar only) from collar top centerline to collar/hull joint and extend approximately to midships down each side of the collar.

9.0 OUTFITTING AND EQUIPMENT

9.1 TOWING

In addition to the requirements of Tow Post identified in Section 7.5, the contractor must supply and install the following;

9.1.1 A hand cranked tow reel is required, with 100m of buoyant ¾ inch diameter towline

9.1.2 A removable handle to be stowed in a pocket nearby.

9.1.3 A removable, marine fabric cover is to be supplied for the towing reel with a fastening system that would allow for quick removal.

9.2 LIFTING

Multi-point Lifting; Certificates to accompany the slings. All vessels must be equipped with a four-leg webbing lifting bridle. The location and arrangement of lifting gear must be such that it does not pose a safety hazard to the operator or crew nor interfere with boat operation.

9.2.1 All bridle lifting lugs must be reinforced and proof tested in accordance with CSA Tackle Regulations, and must comply with the IMO regulations for 6:1 safety factors.

9.2.2 Lifting lugs may be recessed into the deck, or integral with tube cradle or transom, and may stand proud of deck in low traffic areas. Lifting points must not be located below the deck or within lockers or compartments. Lifting points must be located so that the bridle does not snag on the boat structure, console, outfit or machinery.

9.2.3 Lifting slings provided must be webbing strap type certified to safely lift the vessel with the Rescue Boat 200% (complement and equipment on a full fuel boat) load condition, with a safety factor of 3 to 1 to the yield point for the lift rings.

9.3 ELECTRICAL

BREAKERS MUST BE USED FOR ALL ELECTRICAL COMPONENTS ON THE RIB, FUSES ARE NOT ACCEPTABLE.

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. Electrical equipment identified as required to be waterproof (e.g. console switch panel) will be deemed acceptable if it meets with IP66. Incorporating a waterproof breaker panel with a minimum of 10 circuits fitted. The Contractor must ensure that the breaker panel has 10% expansion room or a minimum of 2 spare breakers (whichever option is greater). There must be a minimum of three breaker panels; two (2) 50 amp and one (1) 25 amp with the load split between the three.

9.3.1 Twelve Volt (12V) DC distribution system must be provided to power the engine starting and boat service loads including:

- 9.3.1.1 Navigation lights;
- 9.3.1.2 Exterior Lighting;
- 9.3.1.3 Navigational equipment;
- 9.3.1.4 Instrumentation;
- 9.3.1.5 Bilge Pumps;
- 9.3.1.6 Electronics; and
- 9.3.1.7 Communications

9.3.2 All fitted electrical equipment must be capable of operating simultaneously with any other fitted electronics equipment without causing interference to any electronic equipment or to the magnetic compass.

9.3.3 All electrical equipment must be readily accessible for performing maintenance.

9.3.4 Two (2) marine quality 12V power outlets must be installed on or near Operator's console.

9.3.5 The electrical system must be completely waterproofed and easily accessible, incorporating a waterproof faced breaker panel with a minimum of 10 circuits fitted.

9.4 Shore Power Service:

must be provided for all RIBs delivered to Ontario, Arctic, Quebec and the Atlantic provinces only. A shore power connection must be fitted complete with a marine grade service rated 50-ft shore power cable, capable of supplying 120V AC, 30 ampere, single-phase service.

9.4.1 The boat's shore power receptacle must be a marine-style locking 30-amp waterproof male receptacle in a location that is accessible.

9.4.2 must be integrated into the electrical system to allow connection for charging while the boat is at dock or sitting on it's trailer.

9.5 BATTERIES, CABLES, AND CHARGING SYSTEMS

The craft must have a three (3) battery system. All batteries must be marine grade glass mat or gel type maintenance free to eliminate leakage, the system must be as follows:

9.5.1 Two (2) dedicated starting batteries for the outboard engines and house loads. Dual-battery system, minimum 750 cranking amps with dual-battery selector switch mounted in a recessed position that conforms to engine

manufacturer's specifications. Guest 2300A dual battery / dual battery selector switch is suitable;

9.5.2 One (1) battery dedicated to the emergency VHF radio, minimum 55 Ah/120 minute reserve capacity located in port aft console with an appropriate housing with cover.

9.5.3 The starting/house batteries must be positioned in the forward console with a dedicated housing and cover for the two.

9.6 UTILITY LIGHTING

9.6.1 Progressive dimmers of marine grade must be fitted wherever practicable, with the capability of dimming engine monitoring gauges and other indicators separately from compass illumination.

9.6.2 Craft must be fitted with two (2) LED marine grade floodlights, on their own breaker, one each side on the underside of the capsized reversal pan, suitable for illuminating the forward deck space. (Rigid Industries Dually-Floodlights meets this requirement).

9.6.3 A blue flashing light (strobe type) must be fitted. (The Star Warning Systems, part 23315, or Lopolight strobe lights meet this requirement)

9.6.4 Fitted Search Lights: (Aquasignal or equal) The searchlight should be a deck mounted spot/flood light. The mount must be fitted on the removable bow tow post.

9.6.5 Three accessory plugs (watertight caps) will be installed on the boat, Marinc Connect Pro 12v plug with twist lock or equal. One forward by the removable bow light, one on the forward end of the operator console, one on the top port corner of the motorwell.

9.6.6 Handheld Searchlights: (two required), 35 Watt Xenon HID Lights.

9.7 ELECTRONIC EQUIPMENT

9.7.1 These vessels must be equipped with the following electronics navigation and communications equipment, with displays located as described for the console, in addition to the regulatory required compass and horn. Arrangement to be approved by the owner's TA.

9.7.2 A depth sounder must be installed with the display at the operator position above the engine tachometers and complete with an Airmar P319 transducer mounted as per manufacturers' specifications, (Simrad IS42 Combi Transducer Digital depth sounder meets this requirement). Transducer bracket must be installed using blind inserts.

9.7.3 Install Simrad 4G – Radar scanner

9.7.4 Two (2) Simrad NSS9evo3 Multifunction Displays complete with radar, and plotter interface at the navigation/communication console, with GPS interface and GS25 Antenna.

9.7.5 Standard Horizon GX5500 VHF DSC radio. C/w loud hailer/intercom function wired to Radio with an SP-24 ICOM speaker. Antennas must be two (2) Comrod AV51P4's, both on HD ratchet mounts.

9.7.6 Coast Guard will install an additional GSM Radio so a spare breaker must be supplied and fitted. Console space must be provided for this radio, a Motorola APX6500 with 02 control head and encryption module.

9.7.7 David Clarke wireless headset system; includes four U9910-BSW Belt Stations & associated "Gecko Helmet" headset inserts, U9800S Master Station, U9921 Universal Gateway, wireless gateway whip antenna, U9810PD Panel Display, and applicable interconnection cabling for intercommunications with onboard VHF radios. The placement of the displays will be on the aft upper face of the aft console, between the console lids, so that they are accessible. The speakers will be located on the lower face of the aft console.

9.7.8 The speakers are to be located below the master station and panel display.

9.8 PUMPING AND DRAINAGE

9.8.1 An electric bilge pump with 2000 gph capacity must be fitted in the main hull or largest watertight division as well as a fixed manual operated bilge pump of the diaphragm type. The bilge pump(s) must be located so that they take suction from the lowest point of the hull. Piping must be installed which will allow the bilge pump(s) to discharge directly overboard. Any additional watertight division of the hull will be serviced by a bilge pump of 1500 GPH capacity. The wire gauge for all bilge pumps must be a minimum of 10 gauge.

9.8.2 An automatic level sensor control must be fitted that turns on the electric bilge pump (Non-Pedal type) when water is present in the bilge. ULTRA PUMPSWITCH SR Automatic Bilge pump operation (1 1/4" differential) with isolated high water alarm switch (at 3"), built-in, 12V at 15Amp U.L will meet this requirement (part number UPS 01). The electric bilge pump control switch must be located on the operator's console, with settings for 'momentary on', 'off', and 'automatic' operation. An indicator light must be provided at the control that lights when the bilge pump is operating.

9.8.3 Hull drainage - a brass threaded plug must be provided in the lowest point to drain the hull when out of the water.

9.8.4 Valves and handles must be made of non-corroding materials and must be located where they are readily accessible for operation, maintenance or removal.

9.9 RADAR ARCH / SELF RIGHTING SYSTEM

9.9.1 Radar Arch - must be installed aft, on which to mount antennae, lights and other fittings.

9.9.2 SOLAS Rescue Boat approved self-righting system of proven design must be installed.

9.9.3 The system must employ a re-useable bladder and be a manually activated, self-righting system that will right an inverted RIB in no more than 15 seconds in air temperatures no less than -20° C.

9.9.4 The bladder must be stowed deflated in a quick release enclosure on the arch.

9.9.5 The framework must be constructed of materials and in such a manner to allow for a ten year lifespan without failure under normal operating conditions. At a minimum the materials must be made of 2" Schedule 40, type 5086 alloy.

- 9.9.6** A recovery line of at least 10M must be fitted to the engine guard, on the port side.
- 9.9.7** The activating handle will be located on the port side so that it is above the waterline when the boat is upside down.
- 9.9.8** The system must be a compressed air system fitted with suitable over pressure relief valves and an inflation valve c/w a gauge mounted on the valve. (The Mirada series 5000 firing head and gauge meet this requirement.)
- 9.9.9** The air bottle should be manufactured out of a rugged material that can withstand severe operating conditions. (The bottles Manufactured by Structural Composites Industries (SCI) and made of high pressure (4500 p.s.i.) GRP wrapped aluminum meet this requirement.) (http://www.scicomposites.com/custom_cylinders.html). The bottle must not be mounted on the self-righting frame but rather in an area which is well protected from the elements but will still allow for ease of service and viewing of the pressure gauge. Mounting brackets for the bottle must be fiberglass.
- 9.9.10** Any ancillary equipment such as navigation lights, radar domes or radio antennas fitted to the self-righting cage must not interfere with the efficient operation of the self-righting system.

9.10 LIFESAVING EMERGENCY EQUIPMENT

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 foot pump and the repair kits must be stowed in a stowage locker). The Contractor will supply and outfit the boat with the following emergency equipment:

- 9.10.1** Fire extinguisher (Class 5BC, marine type);
- 9.10.2** Boat hook, 8 feet long (retractable);
- 9.10.3** 2 paddles;
- 9.10.4** Anchor (Fortress model 7X or equivalent) and line with chain;
- 9.10.5** Drogue sea anchor and line;
- 9.10.6** Four (4) 25-foot ½" braided nylon mooring lines
- 9.10.7** Collar patch kit (for inflatable collar);
- 9.10.8** Hull repair kit;
- 9.10.9** Foot pump (bellows type, for floatation collar);
- 9.10.10** One (1) water proof LED flashlight w/ spare batteries and bulb;
- 9.10.11** One (1) pealess whistle;
- 9.10.12** TC approved First aid kit in waterproof container;
- 9.10.13** Two (2) buoyant rescue quoits attached to 30m of buoyant line;
- 9.10.14** Three (3) Thermal protective aids;
- 9.10.15** Radar reflector, Mountable on cage, tube style;
- 9.10.16** Six (6) TCMSB approved flares, type A.B.C;
- 9.10.17** Buoyant safety knife with sheath and blunt tip.

10.0 PROPULSION – Twin Outboards

10.1 GASOLINE OUTBOARDS

Unless otherwise specified, outboard motors ONLY will be GOVERNMENT SUPPLIED MATERIAL (GSM) and Contractor installed. The outboards supplied are one of three brands/models:

- 10.1.1** Twin Evinrude G-2, 175hp 25" shafts, model numbers C175PXAA standard rotation and C175PXCAA counter rotation. Supplied for RIBs delivered to British Columbia, Nova Scotia and CCG College.
- 10.1.2** Twin Mercury Verado, 175hp 25" shafts, model numbers 1175V23ED standard rotation and 1175V24ED counter rotation. Supplied for RIBs delivered to Newfoundland & Labrador.
- 10.1.3** Twin Yamaha in line four stroke, 175hp 25" shafts, model numbers F175XCA standard rotation and LF175XCA counter rotation. Supplied for RIBs delivered to Ontario, Quebec and the Arctic.
- 10.1.4** The outboards must be installed and operated in accordance with the engine manufacturer's recommendations. The use of engine manufacturer's approved accessories and equipment is required. Equipment and components must not be used, nor trials performed on the engines that would, in any way, void the engine manufacturer's warranties.
- 10.1.5** Outboard motors should be mounted as far apart as practicable.
- 10.1.6** Outboard motors must be mounted as per manufacturer's instructions.
- 10.1.7** The port outboard drive must be counter rotating.
- 10.1.8** Contractor to supply and install the digital gauge packs and equipment listed in section 7.4 and as required by the outboard brand identified for the specific RIB.
- 10.1.9** Oil tanks, (if any) must be installed as per manufacturer's instructions. Any oil tanks mounted below deck will include remote oil filling, and where applicable an oil level gauge.
- 10.1.10** The Contractor must have the engine manufacturers' service agent inspect and verify the installation prior to trials and shipping.
- 10.1.11** Control cables, harnesses, propellers, and All other components will be Contractor supplied and installed.
- 10.1.12** Propellers are Contractor supplied and must be stainless steel. The Contractor must identify, through calculation the pitch and diameter of the propellers to meet the Performance Requirements specified herein. This calculation will then be supplied to the Technical Authority upon completion of the contractors design check.
- 10.1.13** Kill Switch - Engine installations must incorporate an automatic shutdown feature (kill switch) for each engine to be mounted near the ignition switches. Two (2) spare cords must be provided with each boat.
- 10.1.14** If the engines are mounted directly on the transom, the hull is to incorporate an integrated motorwell into the hull-deck design, with tube support to the transom.
- 10.1.15** The ACR's from the engines must be wired directly to the batteries.

10.2 OUTBOARD MOTOR GUARD

- 10.2.1** A guard made of welded 2" schedule 40, type 5086 aluminium pipe must extend out and around the outboard motors to protect them from impact.

This guard must be fabricated so as to be easily removed in order to facilitate the removal of the outboard motors. The guard shall extend past the transom no more than 830 mm.

10.3 FUEL SYSTEMS – MUST BE EPA COMPLIANT AND MUST MEET ABYC H-24 LATEST VERSION.

ALL FUEL SYSTEM HOSES TO BE USCG A RATED

- 10.3.1** Valves and fittings used in the fuel system must be of non-corroding materials, and all fuel valves should be readily accessible and labelled.
- 10.3.2** Each fuel vent must be fitted with a ball check valve.
- 10.3.3** Fuel filling area must be elevated and utilize an EPA compliant fuel fill cap system. Fuel fill area must be elevated such that it stands proud of the deck at least 2 inches to avoid contamination entering the inboard hull. Fuel fill area must be fitted with a lock mechanism to prevent unwanted access.
- 10.3.4** The two fuel tanks are fitted they must be fitted to a common manifold which allows the engine to use fuel from either, selected, tank.
- 10.3.5** Mounting of the fuel tanks and tank tie-downs must be of sufficient strength for the intended operations of the RIB, such that there is no movement of the tanks or bending of the tie-downs.
- 10.3.6** Main Tank - minimum 322 Litres (85 gal US) and Auxiliary Tank minimum Capacity 182 Litres (48 gal US).
- 10.3.7** Each fuel tank supply must be fitted with a debris and water separating filter system (transparent bowl) that is accessible for ease of maintenance. Racor 320R-RAC-02 or equivalent.
- 10.3.8** There must be two tanks fitted, each manufactured from roto-moulded cross-linked polyethylene, or marine grade aluminium, with sufficient strapping to prevent any movement of the tank. There must be an inspection hatch(es) in the deck, to allow access to the fuel pickups, (with the required shutoff valve at the tank), vent, and fill connections, and tank level indicators.
- 10.3.9** Bilge Blower: The gasoline tank space must be fitted with a 12V D.C. bilge blower system in excess of TP1332, controlled by a separate watertight switch on its own breaker at the control console.

11.0 STEERING

- 11.1** Power steering must be provided for all RIBs delivered to Ontario, Arctic, Quebec and the Atlantic provinces only.
- 11.2** Steering system must be remote hydraulic with self-contained oil reservoir, and replaceable seals on the rams, unless propulsion system builder requires alternate steering arrangement.
- 11.3** Hydraulic hoses must be of sufficient size and length to prevent pulsing. Hoses must be suitable for use in an exposed marine environment complete with stainless steel fittings. Steering systems must be hydraulic, the number of turns hard over to hard over is dependent on the outboard engine brand, however

every effort must be made to attain a maximum of 4 turns from hard over to hard over, the Seastar Teleflex steering system meets this requirement.

- 11.4 All hydraulic steering hoses must be routed below deck and all hoses must be routed so that there are no pinch points on the hoses.
- 11.5 The wheel / console connection must be of robust construction, to eliminate fore and aft or lateral movement of wheel / steering shaft fixture.
- 11.6 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. (Momo Marine steering wheels meet these requirements).

12.0 PAINTING AND PRESERVATION

- 12.1 Fibreglass components must have a coloured fire retardant gel-coat finish on all exterior surfaces. Gelcoat to be applied at 20-22 mil thicknesses. Finish colour(s) as per Section 8.1.3.
- 12.2 Aluminium components must have a painted finish (an approved powder coat process is acceptable) on all specified exterior and interior surfaces, comprised of suitable etch, primers, and topcoat per Section 8.1.4. Typical single coat paint systems can be applied in the 5 to 7 mil thickness range per coating set. Typical system components would be: a) etch-primer; b) two coats of primer; and c) minimum double topcoat.
- 12.3 Prior to delivery the Contractor must ensure that all non-painted exposed aluminium is free of cosmetic blemishes, including all construction marks, scratches, gouges and stains.

13.0 SYSTEMS GENERAL

PROTECTION OF CONTROLS - 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.

13.1 CABLES

- 13.1.1 Cables for all electrical distribution must be ample in size for the particular service, of marine grade tinned boat cable.
- 13.1.2 Cables must be grouped into wiring harnesses wherever possible. All wiring harnesses must be routed through protective conduit pipe. Where impractical 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.
- 13.1.3 Cabling / conductors passing through watertight boundaries, decks, bulkheads or other exposed surfaces must be installed to maintain watertight integrity of the structure. Cable entry into watertight enclosures must be through watertight marine glands of suitable size.

- 13.1.4 Cabling / conductors passing through structures without watertight glands, must be protected against chafing by the use of abrasive resistant grommets.
- 13.1.5 Routing cables through foamed spaces must be avoided wherever possible. 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.

13.2 Piping Systems

- 13.2.1.1 Fuel System must be hydrostatically tested, or air tested to 3.0 psi. and be labelled per the requirements of TP1332.
- 13.2.1.2 Fittings and clamps must be stainless steel. Bolts used in all fittings must be Type 316 stainless steel.
- 13.2.1.3 Each watertight Hull compartment is to have its own 12V DC bilge pump, plumbed to discharge overboard from the compartment, as per TP1332.

13.3 NAVIGATION EQUIPMENT (COLREGS)

The following must be Contractor supplied and fitted:

- 13.3.1 Navigation lighting 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.
- 13.3.2 Particular COLREGS rules to note (vessels under 12 M.); Rules 22, 23, and Annex 1, rules 2, 9, and 10. (NOTE: The lights must be installed parallel to the "Normal Load" waterline that often may not be parallel to the deck.)
- 13.3.3 The navigation lights must be mounted so as not to interfere with vision of the operator.
- 13.3.4 The navigation lights must be permanently mounted.
- 13.3.5 All navigation lights must display the arc and range of visibility as defined in the Canada Shipping Act, Collision Regulations.
- 13.3.6 Navigation lights must be permanently fitted to the self-righting cage with protected wiring and must be waterproofed. The fitting of a combined lantern on the inflatable collar will not be acceptable.
- 13.3.7 The navigation light fixtures must be of such a design as to resist the effects of vibration and must be provided with adequate protection from damage, which may occur when lying alongside a vessel or a pier. (The Hella NaviLED meet this requirement.) A single all-round light for Masthead / Stern light is acceptable, mounted on a folding / detachable stanchion 1M above sidelights. LED navigation lights may be used.
- 13.3.8 The Contractor must supply and install an electric horn that ensures the requirements of the Collision Regulations, Rule 32 are met, i.e. with a standard small vessel 'horn' audible 0.5 NM. The horn must be installed on the vessel exterior with the 'horn' facing forward. The horn must be operated by a spring-loaded switch located on the operators' console. At a minimum a BRP 120 db horn must be installed.
- 13.3.9 A Magnetic Compass must be mounted near the centreline of the helm station, in easy view of the operator when facing forward. Ritchie F83 will meet this requirement.

14.0 TESTS & TRIALS

The Contractor must conduct their own inspections, tests and trials to verify successful completion of the Work in accordance with this TSOR and the proper operation of the vessel and all associated equipment. The requirements for inspections, tests and trials and associated deliverable documentation are defined in the Contract and Annexes to the Contract including any test, trials or sample reports attached thereto. All discrepancies identified through the inspection, test and trials processes must be corrected prior to delivery.

14.1.1 The Contractor must, as a minimum, inspect and test the following items 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). The inspections and tests listed herein are minimums and are not intended to supplant any controls, examinations, inspections or tests normally employed by the Contractor to assure the quality of the vessel:

14.1.1.1 Weight

14.1.1.2 Construction Quality

14.1.1.3 Lifting Gear, if applicable

14.1.1.4 Propulsion Engines, including starting

14.1.1.5 Propulsion Controls

14.1.1.6 Steering System

14.1.1.7 Fuel System

14.1.1.8 Electrical System

14.1.1.9 Electronics

14.1.2 Sea Trials

The minimum acceptable sea trial and report is as attached hereto, ATTACHMENT I OF APPENDIX II.

14.1.3 A copy of the stability calculations and documentation as previously submitted to obtain the current SOLAS Rescue Boat certificate must be provided in the technical manual, an additional copy must be provided for the Technical Authority.

14.1.4 Trial Records and Reports:

The requirements for recording and maintaining trials records are given in the Contract and applicable Annexes

14.1.5 Deliverable Documentation:

The requirements for deliverable documentation are given in the Contract and applicable Annexes.

15.0 BUILDER'S PLATE

15.1 NATIONAL ASSET CODE

15.1.1 The National Asset Codes for each of these vessels is provided in Annex B. The contractor must add this 5 character code to the builder's plate of the vessel with the prefix "National Asset Code".

15.2 BUILDER'S PLATE

15.2.1 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.

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

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

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

15.2.4.1 National Asset Code;

15.2.4.2 Naval Architect/Designer;

15.2.4.3 Builder;

15.2.4.4 Hull Number;

15.2.4.5 Year of Construction;

15.2.4.6 Lightship Weight in kilograms.

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

16.0 SHIPPING AND DELIVERY

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

16.1 Prior to shipping, the boats 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.

16.2 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.

16.3 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.

16.4 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.

16.5 Means of Delivery: For a delivery distance not exceeding 1000 km the Contractor may deliver the vessel/trailer combination on the trailer. Where the delivery distance exceeds 1000 km the trailer may not be utilized as means of delivery

17.0 TRAILER

17.1 The Contractor must supply a dual axle trailer to fit the boat, welded galvanized construction and be rated at least 20% over the anticipated 'normal load' weight of the boat, minimum load capacity of 8000 lbs. The trailer must be certified commercial requirements in accordance with Department of Transport regulations for towing the vessel, and be constructed and equipped with the following:

17.1.1 Tandem axle trailer, welded frame with spare tire on rim (mounted to front of trailer), safety chains and stainless steel "Bearing Buddies" and grease nipples.

- 17.1.2** Brake and turn signal submersible style LED lighting, with 7-prong flat wiring connector. (Note requirement for other connector if required for the equipment listed for trailer).
 - 17.1.3** Stainless steel calipers, mounting brackets and rotors with the appropriate brake pads.
 - 17.1.4** Electric over Hydraulic, jurisdiction compliant braking system.
 - 17.1.5** Manual, two speed bow winch assembly with winch webbing strap, non-corroding safety hook, bow chock, and tongue jack, (1600 lb.) with wheel and an anti-reverse mechanism.
 - 17.1.6** Heavy-duty 'stand-on' fenders with mud flaps and hitch to accommodate a 2 5/16 inch ball;
 - 17.1.7** Bunks and wheel mounted spare tire and carrier, with lug wrench; and six removable attachment points.
 - 17.1.8** Trailer to be supplied with two (2) ratchet tie down straps with hooks securing boat to trailer aft. Turnbuckle to be provided for securing boat to trailer forward.
 - 17.1.9** The trailer must be fitted with a heavy duty Fulton type 545 Kg (1600 lb.) H.D. trailer jack complete with heavy duty wheel.
 - 17.1.10** Class III weight distributing hitch compliant.
 - 17.1.11** Radial tires approved for trailers, minimum 225 75 R 15" Load range D tires on 6-bolt galvanized rims, with an equivalent sized spare on a high mount bracket. The tires must have a capacity equal or superior to the load capacity of the trailers.
- 17.2** The contractor must record the trailer sales and registration information and provide the information in each vessel manual.

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 USB stick 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 USB stick 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, it's 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 (Section 15), 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:

1.2.2.1.1 Calculated lightship weight;

1.2.2.1.2 General arrangement, Plan Profile section views;

- 1.2.2.1.3 Structural drawings showing deck plan, a centerline profile and frame station construction details;
- 1.2.2.1.4 Detailed lines plan;
- 1.2.2.1.5 Drawing of the fuel and propulsion supply arrangement; and,
- 1.2.2.1.6 Drawing of the electrical supply and functions of the vessel.
- 1.2.2.2 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.
- 1.2.2.3 Hull Serial Number (HIN), copy of builders plate, TEST and TRIAL results as per completed Attachment 1 of Appendix II, serial or manufacturer's numbers, and equipment warranty cards.
- 1.2.2.4 Engine(s) and equipment: including engine and propulsion serial numbers.
- 1.2.2.5 If applicable, collars; including collar material and glue materials and procedures necessary for onboard repair of the collar.
- 1.2.2.6 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
- 1.2.2.7 Pre-trial shop Testing Check Sheet.
- 1.2.2.8 Electronics, (if applicable): including model and serial numbers.
- 1.2.2.9 Regulatory and Stability documentation: as required per TP 1332, which, references ISO12217 or ISO 6185 for RIBs (if applicable).

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

2.1.1 The following additional documentation must be supplied in both sets of Technical publication manuals delivered (defined in 8.4.2):

- 2.1.1.1 Tonnage Registration Certificate in accordance with TP 13430 - <http://www.tc.gc.ca/eng/marinesafety/svcp-gt-3948.htm> ;
- 2.1.1.2 Registration to the Small Vessel Compliance Program (SVCP) Website: <http://www.tc.gc.ca/eng/marinesafety/svcp-menu-3633.htm> ;

- 2.1.1.3 Two (2) Bill of Sales, one (1) for the vessel and one (1) for the trailer;
- 2.1.1.4 Test & Trial results as required by Appendix A;
- 2.1.1.5 Acceptance Certificates, i.e. life-saving appliances, lifting appliances, engine test reports, calibration certificates, extinguishers, etc;
- 2.1.1.6 A valid Motor Vehicle Registration Certificate for the relevant Province, for the trailer; and
- 2.1.1.7 All testing check sheets created and completed by the builder.

APPENDIX II

Sea Trials

- 1.0** 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 incident to the trials must be borne by the Contractor, including fuel unless otherwise specified. A crew provided by the Contractor must operate the vessel during sea trials. Residual fuel, if not drained for shipping, must be delivered in its tank with the vessel.
- 2.0** 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. 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
- 3.0** The Contractor must submit a Test & Trials Plan, including a description of all of the acceptance trials to be performed. As a minimum, Using Attachment I, modified to suit these vessels, the following trials must be conducted: (the vessel must operate in the Normal Load Condition.)
 - 3.1.1** 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.
 - 3.1.2** 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
 - 3.1.3** 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.
 - 3.1.4** 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. Manoeuvring trials must be conducted in the Normal

Load Condition and repeated in the Full Load Condition.

- 3.1.5** The Contractor must provide a Tests & Trials Sheet, (Attachment 1) for each boat and include this sheet in the technical publications.
- 3.1.6** Public Works and Government Services 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.
- 3.1.7** At the conclusion of sea trials each 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.
- 3.1.8** 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 5.1.9).

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APPENDIX II, ATTACHMENT 1
SMALL CRAFT / VESSEL TESTS & TRIALS SHEET
CONTRACT # F7047-150075

Small Craft / Vessel Builder:			
Small Craft / Vessel Description:			
Hull Identification Number:			
National Asset Code:			
Date of Trials:			
Personnel in Attendance:			
Builder			
PWGSC			
DFO			
DFO			
Time: _____ hrs Departing from _____			
Small Craft / Vessel Weights:	Dry Weight of Hull with cabin:		_____ lbs/ _____ kg
	Furnishings & Fittings:		_____ lbs/ _____ kg
	Engines & Equipment:		_____ lbs/ _____ kg
	Fuel:	Fuel:	_____ lbs/ _____ kg
	_____ Imp gal	_____ Litres	
	Total Weight of Small Craft/Vessel:		_____ lbs/ _____ kg
	Number of Crew _____ and operating equipment:		_____ lbs/ _____ kg
Test Total Laden Weight:		_____ lbs/ _____ kg	

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	Trailer weight:	_____ lbs/ _____ kg
	Boat & Trailer weight:	_____ lbs/ _____ kg
Motors: Starting - Operation "IDENTIFY INBOARD/OUTBOARDS"	Port	<input type="radio"/> Immediate, Yes / No
	Starboard	<input type="radio"/> Immediate, Yes / No
Propellers/Impellers	Pitch	_____
	Diameter	_____
	No. of Blades	_____
	Stainless Steel or Aluminum	<input type="radio"/> S/S ___ AL
Static Attitude & Trim:		
Weather Conditions: Refer to attached Beaufort Wind Scale. BWS No. _____		
Speed Trials	Speed Required _____ - _____ knots	
	Cruising Speed: measured mile 1 way	_____ kts @ _____ rpm
	Cruising Speed: measured mile return	_____ kts @ _____ rpm
	Averaged Cruising Speed:	_____ kts @ _____ rpm
	Maximum Speed: measured mile 1 way	_____ kts @ _____ rpm
	Maximum Speed: measured mile return	_____ kts @ _____ rpm
	Average Maximum Speed	_____ kts @ _____ rpm
Full Throttle	From dead stop to plane	_____ seconds
	From dead stop to 30 knots	_____ seconds

Astern Propulsion:	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
Tubes (if applicable)	No. of Chambers	_____
	Semi-auto fill system	<input type="radio"/> Yes / No
	Time to fill all chambers	_____ seconds
Endurance Trials: X = gallons or Litres	Fuel consumption	
	Port & Starboard Motor: at cruise:	_____ X/hr @ _____ rpm
	Port & Starboard Motor: at full throttle:	_____ X/hr @ _____ rpm
Steering: Acceptable Y / N	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	
Outboard/Inboard Leg Trim Control:	From fully raised to fully lowered.	<input type="radio"/> Acceptable Yes / No
Trim Tab Operation:	Fully raised, fully lowered.	<input type="radio"/> Acceptable Yes / No

Engine Controls:	Start	<input type="radio"/> Issues, Yes / No
	Shift	<input type="radio"/> Issues, Yes / No
	Throttle	<input type="radio"/> Acceptable Yes / No
Engine Gauges:	Tachometer	<input type="radio"/> Acceptable Yes / No
	Fuel gauges	<input type="radio"/> Acceptable Yes / No
	Trim gauges	<input type="radio"/> Acceptable Yes / No
	Oil pressure	<input type="radio"/> Acceptable Yes / No
Engine Gauges:	Voltmeter	_____ volts
Cabin Sound Levels:	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
Outboard/Inboard engine operation:	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
Loaded Vessel Drop Test:	If applicable	<input type="radio"/> Acceptable Yes / No
Lifting Bridle Certified:	If applicable	<input type="radio"/> Acceptable Yes / No
Rollover test	If applicable	<input type="radio"/> Acceptable Yes / No

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Beaufort Wind Scale Identifier

Force	Wind Speed		Descriptive Term	Effects Observed at Sea	Effects Observed on Land
	Km/h	Knots			
0	Less than 1	Less than 1	Calm	Sea surface like a mirror, but not necessarily flat.	Smoke rises vertically.
1	1 - 5	1 - 3	Light air	Ripples with the appearance of scales are formed, but without foam crests.	Direction of wind shown by smoke drift, but not wind vanes.
2	6 - 11	4 - 6	Light breeze	Small wavelets, still short but more pronounced. Crests do not break. When visibility good, horizon line always very clear.	Wind felt on face. Leaves rustle. Ordinary vane moved by wind.
3	12 - 19	7 - 10	Gentle breeze	Large wavelets. Crests begin to break. Foam of glassy appearance. Perhaps scattered whitecaps.	Leaves and small twigs in constant motion. Wind extends light flag.
4	20 - 28	11 - 16	Moderate breeze	Small waves, becoming longer. Fairly frequent whitecaps.	Raises dust and loose paper. Small branches are moved.
5	29 - 38	17 - 21	Fresh breeze	Moderate waves, taking a more pronounced long form. Many whitecaps are formed. Chance of some spray.	Small trees with leaves begin to sway. Crested wavelets form on inland waters.
6	39 - 49	22 - 27	Strong breeze	Large waves begin to form. The white foam crests are more extensive everywhere. Probably some spray.	Large branches in motion. Whistling heard in telephone wires. Umbrellas used with difficulty.
7	50 - 61	28 - 33	Near gale	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.	Whole trees in motion. Inconvenience felt in walking against wind.
8	62 - 74	34 - 40	Gale	Moderately high waves of greater length. Edges of crests begin to break into the spindrift. The foam is blown in well-marked streaks along the direction of the wind.	Breaks twigs off trees. Generally impedes progress. Walking into wind almost impossible.
9	75 - 88	41 - 47	Strong gale	High waves. Dense streaks of foam along the direction of the wind. Crests of waves begin to topple, tumble and roll over. Spray may affect visibility.	Slight structural damage occurs, e.g. roofing shingles may become loose or blow off.
10	89 - 102	48 - 55	Storm	Very high waves with long overhanging crests. Dense white streaks of foam. Surface of the sea takes a white appearance. The tumbling of the sea becomes heavy and shock-like. Visibility affected.	Trees uprooted. Considerable structural damage occurs.

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Force	Wind Speed		Descriptive Term	Effects Observed at Sea	Effects Observed on Land
	Km/h	Knots			
11	103 - 117	56 - 63	Violent storm	Exceptionally high waves. Sea completely covered with long white patches of foam. Visibility affected.	Widespread damage.
12	118 - 133	64 - 71	Hurricane	Air filled with foam and spray. Sea entirely white with foam. Visibility seriously impaired.	Rare. Severe widespread damage to vegetation and significant structural damage possible.



BEAUFORT FORCE 0
WIND SPEED: LESS THAN 1 KNOT
SEA: SEA LIKE A MIRROR



BEAUFORT FORCE 1
WIND SPEED: 1-3 KNOTS
SEA: WAVE HEIGHT 1M (3FT), RIPPLES WITH THE APPEARANCE OF SCALES, BUT WITHOUT FOAM CRESTS



BEAUFORT FORCE 2
WIND SPEED: 4-6 KNOTS
SEA: WAVE HEIGHT 2-3M (5-10 FT), SMALL WAVELETS, CRESTS HAVE A GLASSY APPEARANCE AND DO NOT BREAK



BEAUFORT FORCE 3
WIND SPEED: 11-16 KNOTS
SEA: WAVE HEIGHT 1-1.5M (3.5-5 FT), SMALL WAVES BECOMING LONGER, FAIRLY FREQUENT WHITE HORSES



BEAUFORT FORCE 4
WIND SPEED: 17-21 KNOTS
SEA: WAVE HEIGHT 2-3.5M (6-8 FT), MODERATE WAVES TAKING MORE PRONOUNCED LONG FORM, MANY WHITE HORSES, CHANCE OF SOME SPRAY



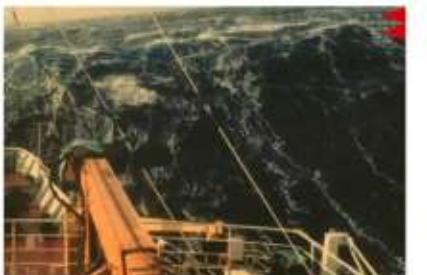
BEAUFORT FORCE 5
WIND SPEED: 22-27 KNOTS
SEA: WAVE HEIGHT 3-4M (8.5-13 FT), LARGER WAVES BEGIN TO FORM, SPRAY IS PRESENT, WHITE FOAM CRESTS ARE EVERYWHERE



BEAUFORT FORCE 6
WIND SPEED: 28-33 KNOTS
SEA: WAVE HEIGHT 4-5.5M (13.5-19 FT), SEA HEAPS UP, WHITE FOAM FROM BREAKING WAVES BEGINS TO BE BLOWN IN STREAKS ALONG THE WIND DIRECTION



BEAUFORT FORCE 7
WIND SPEED: 34-40 KNOTS
SEA: WAVE HEIGHT 5.5-7.5M (18-25 FT), MODERATELY HIGH WAVES OF GREATER LENGTH, EDGES OF CREST BEGIN TO BREAK INTO THE SPINDRIFT, FOAM BLOWN IN WELL MARKED STREAKS ALONG WIND DIRECTION,



BEAUFORT FORCE 8
WIND SPEED: 41-47 KNOTS
SEA: WAVE HEIGHT 7-10M (23-33 FT), HIGH WAVES, DENSE STREAKS OF FOAM ALONG DIRECTION OF THE WIND, WAVE CRESTS BEGIN TO TOPPLE, TUMBLE AND ROLL OVER, SPRAY MAY AFFECT VISIBILITY,



BEAUFORT FORCE 9
WIND SPEED: 48-55 KNOTS
SEA: WAVE HEIGHT 9-12.5M (29-41 FT), VERY HIGH WAVES WITH LONG OVERHANGING CRESTS, THE RESULTING FOAM, IN GREAT PATCHES, IS BLOWN IN DENSE WHITE STREAKS ALONG WIND DIRECTION, ON THE WHOLE, SEA SURFACE TAKES A WHITE APPEARANCE, TUMBLING OF THE SEA IS HEAVY AND SHOCK-LIKE, VISIBILITY AFFECTED,



BEAUFORT FORCE 10
WIND SPEED: 56-63 KNOTS
SEA: WAVE HEIGHT 11.5-16M (37-53 FT), EXCEPTIONALLY HIGH WAVES, SMALL-MEDIUM SIZED SHIPS MAY BE LOST TO VIEW BEHIND THE WAVES, SEA COMPLETELY COVERED WITH LONG WHITE PATCHES OF FOAM LYING ALONG WIND DIRECTION, EVERYWHERE, THE EDGES OF WAVE CRESTS ARE BLOWN INTO FROTH,



BEAUFORT FORCE 11
WIND SPEED: 64 KNOTS
SEA: SEA COMPLETELY WHITE WITH DRIVING SPRAY, VISIBILITY VERY SERIOUSLY AFFECTED, THE AIR IS FILLED WITH FOAM AND SPRAY

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ANNEX B - QUESTIONS AND ANSWERS

Article	TSOR description	Bidder Questions	Canada's Responses

ANNEX C - INSPECTION/QUALITY ASSURANCE/QUALITY CONTROL

1. Conduct of Inspection

- (a) Inspections will be conducted in accordance with the ITP provided and accepted by the Inspection Authority and as detailed in this Annex.
- (b) The Contractor must provide its own staff or subcontractors to conduct inspections, tests and trials; excepting that Technical Authority or Inspection Authority personnel may be designated in the specifications, in which case the Contractor must ensure that its own staff are provided in support of such inspection/test/trial.
- (c) As applicable, the Contractor must ensure that the required conditions stated in the specification prevail at the commencement of, and for the duration of, each inspection/test/trial.
- (d) The Contractor must ensure that personnel required for equipment operation and records taking during the inspection/test/trial are briefed and available at the start and throughout the duration of the inspection/test/trial. Tradesmen or FSRs who may be required to effect minor changes or adjustments in the installation must be available at short notice.
- (e) The Contractor is to coordinate the activities of all personnel taking part in each inspection/test/trial and ensure that safe conditions prevail throughout the inspection/test/trial.

2. Inspection Records and Reports

- (a) The Contractor on the inspection record, test or trials sheets as applicable must record the results of each inspection. The Contractor must maintain files of completed inspection records.
- (b) The Contractor's Quality Control (QC) representative (and the FSR when required) must sign as having witnessed the inspection, test or trial on the inspection record. The Contractor must forward originals of completed inspection records, together with completed test(s) and/or trials sheets to the Inspection Authority as they are completed.
- (c) Unsatisfactory inspection/test/trial results, for which corrective action cannot be completed during the normal course of the inspection/test/trial, will require the Contractor to establish and record the cause of the unsatisfactory condition to the satisfaction of the Inspection Authority. Canada representatives may assist in identification where appropriate.
- (d) Corrective action to remove cause of unsatisfactory inspections must be submitted to the Contracting Authority and to the Inspection Authority in writing by the Contractor, for approval before affecting such repairs and rescheduling of the unsatisfactory inspection/test/trial. Such notices must be included in the final records passed to the Contracting Authority and to the Inspection Authority.
- (e) The Contractor must undertake rectification of defects and deficiencies in the Contractor's installation or repair as soon as practicable. The Contractor is responsible to schedule such repairs at its own risk.
- (f) The Contractor must reschedule unsatisfactory inspections after any required repairs have been completed.
- (g) Quality Control, Inspection and Test records that substantiate conformance to the specified requirements, including records of corrective actions, must be retained by the Contractor for

three (3) years from the date of completion or termination of the Contract and must be made available to the Contracting Authority and to the Inspection Authority upon request.

3. Inspection and Trials Process

3.1 Drawings and Purchase Orders

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

3.2 Inspection

- (a) Upon receipt and acceptance of the Contractor's ITP, inspection will consist of a number of Inspection Points supplemented by such other inspections, tests, demonstrations and trials as may be deemed necessary by the Inspection Authority to permit him to certify that the work has been performed in compliance with the provisions of the specification. The Contractor must be responsible for notifying the designated Inspection Authority of when the work will be available for inspection, sufficiently in advance to permit the designated Inspection Authority to arrange for the appropriate inspection.
- (b) The Inspection Authority will inspect the materials, equipment and work throughout the project against the provisions of the specification and, where non-conformances are noted, will issue appropriate INSPECTION NON-CONFORMANCE REPORTS.
- (c) The Contract requires the implementation of a Quality Assurance/Quality Control system, so the Inspection authority must require that the Contractor provide a copy of its internal inspection report pertaining to a work item before conducting the requested inspection. If third party inspections are required by the Contract (e.g. inspections by a certified CWB 178.2 welding inspector), the reports of these inspections are required before the Work is inspected by the Inspection Authority.
- (d) The QA/QC system is a requirement, so if the documentation is presented to the Inspection Authority before an inspection stating that the Work is satisfactory but the Inspection Authority finds that the Work has not been satisfactorily inspected, the Inspection Authority must issue an Inspection Non-conformance Report against the Work and another against the failure of the Contractor's QA/QC system.
- (e) Before carrying out any inspection, the Inspection Authority must review the requirements for the Work and the acceptance and/or rejection standards to be applied. Where more than one standard or requirement is called up and they are potentially conflicting, the Inspection Authority must refer to the order of precedence in the Contract to determine the standard or requirement to be applied.

3.3 Inspection Non-conformance report

- (a) An Inspection Non-conformance report will be issued for each non-conformance noted by the Inspection Authority. Each report will be uniquely numbered for reference purposes, will be signed and dated by the Inspection Authority, and will describe the non-conformance.
- (b) When the non-conformance has been corrected by the Contractor and has been re-inspected and accepted by the Inspection Authority, the Inspection Authority will complete the Report by adding an applicable signed and dated notation.

- (c) At the end of the project, the content of all Inspection Non-conformance Reports which have not been signed-off by the Inspection Authority will be transferred to the Acceptance documents before the Inspection Authority's certification of such documents.

3.4 Tests, Trials, and Demonstrations

- (a) To enable the Inspection Authority to certify that the Work has been performed satisfactorily, in accordance with the Contract and specifications, the Contractor must schedule, co-ordinate, perform, and record all specified tests, trials and demonstrations required by the Inspection Authority and the Specifications and any additional tests and trials performed by the Contractor required by the Inspection Authority.
- (b) Where the specifications contain a specific performance requirement for any component, equipment, sub-system or system, the Contractor must test such component, equipment, sub-system or system to the satisfaction of the Inspection Authority, to prove that the specified performance has been achieved and that the component, equipment, sub-system or system performs as required by the specifications.
- (c) Tests, trials and demonstrations must be conducted in accordance with a logical, systematic schedule which must ensure that all associated components and equipment are proven before sub-systems demonstration or testing, and that sub-systems are proven before system demonstration or testing.
- (d) Where the Specifications do not contain specific performance requirements for any component, equipment, sub-system or system, the Contractor must demonstrate such component, equipment, sub-system or system to the satisfaction of the Inspection Authority.
- (e) The Contractor must co-ordinate each test, trial and demonstration with all interested parties, including the Inspection, Contracting and Technical Authorities; regulatory authorities; Classification Society; Sub-contractors; etc. The Contractor must provide the Inspection Authority and other Government of Canada Authorities with a minimum of ten (10) working days notice of each scheduled test, trial, or demonstration.
- (f) The Contractor must keep written records of all tests, trials, and demonstrations conducted required by the QA System.
- (g) The Contractor must in all respects be responsible for the conduct of all tests and trials in accordance with the requirements of the Contract.
- (h) The Contracting Authority and the Inspection/Technical Authority reserve the right to defer starting or continuing with any sea trials for any reasonable cause including but not limited to adverse weather, visibility, equipment failure or degradation, lack of qualified personnel and inadequate compliance with safety standards.

ANNEX D – DETAILED FINANCIAL PRESENTATION SHEET

D-1 Proposed Work Location:

Contractor's Facility _____

D.2 Evaluation of Price

The price of the bid will be in Canadian Dollars, Delivered Duty Paid (DDP) to the destination stated in Article 6-4.2. Customs duties must be included in all pricing and Applicable Taxes are extra.

Item	Description	Unit Price	Qty	Extended Price
1	SOLAS Rib and trailer as per Annex A with delivery DDP (Incoterms 2000) as per Article 6.4.2		5	
2	Unscheduled Work (for evaluation) <i>Labour Cost:</i> Estimated labour hours at a firm <i>Charge-out Labor Rate</i> , including overhead and profit: 100 person hours X \$_____ per hour for a PRICE of: See articles D-2 below.		100hr	
3	Optional SOLAS RIBs as per Annex A and Article 6.4.2 with delivery TBD.		10	
4.	Evaluation price (1+2+3) For an Evaluation Price of (customs duties are included and applicable taxes are excluded)			

D-3 Unscheduled Work

Unscheduled work arising, as authorized by the Minister, will be calculated in the following manner:

"Number of hours (100) X \$ _____ your firm hourly *Charge-out Labour Rate* which includes *Overhead* and profit, plus net laid-down cost of materials to which will be added a 10% mark-up, plus Goods and Services Tax or Harmonized Sales Tax as applicable, of the total cost of material and labour.

The firm hourly *Charge-out Labour Rate* and the material mark-up will remain firm for the duration of the Contract and any subsequent amendments."

D-3.1 Notwithstanding definitions or usage elsewhere in this document, or in the Bidder's Cost Management System, when negotiating *Hours* for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package.

Elements of *Related Labour Costs* identified in B-2.2 will not be negotiated, but must be included within the *Charge-out Labour Rate*. It is therefore incumbent upon the Bidder to enter values in the above table which will result in fair compensation, regardless of the structure of their Cost Management System.

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F7044-170075

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

Buyer ID - Id de l'acheteur
XLV 166
CCC No./N° CCC - FMS No./N° VME

D-3.2 Allowance for *Related Labour Costs* such as: Management, Direct Supervision, Purchasing and Material Handling, Quality Assurance and Reporting, First Aid, Gas Free Inspecting and Reporting, and Estimating must be included as *Overhead* for the purposes of determining the *Charge-out Labour Rate* entered in line B-1.2 and B-2 above.

D-3.3 A 10% mark-up rate will be allowed for materials and this rate will also apply to subcontracted costs. The mark-up rate includes any allowance for material and subcontract management not allowed for in the Charge-out Labour Rate. A separate labour component for the purchase and handling of materials or subcontract administration is not allowable.

D-3.4 Boat Delivery Proposal

All deliverables are mandatory to be received on or before June 1, 2019.

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ANNEX E - SUBCONTRACTOR LIST

Specification Item	Description of Goods/Services (Including Make, Model Number)	Name of Supplier	Address of Supplier

ANNEX F- INFORMATION REQUIRED FOR INTEGRITY PROVISIONS VERIFICATION

Please provide list of names of the following entities, according to the ownership nature of the company

1. For a Corporation - each current member of the Bidder's Board of Directors;

2. For a Partnership, General Partnership or Limited Partnership - the names of all current partners;

3. For a Sole Proprietorship or an individual doing business under a firm name - the name of the sole proprietor or individual;

4. For a Joint Venture - the names of all current members of the Joint venture;

5. For an individual - the full name of the person

ANNEX G - TABLE OF BID DELIVERABLES

G.1 Mandatory Bid Deliverables

Regardless of requirements specified elsewhere in this bid solicitation and its associated Statement of Work, the following are the documents that must be submitted with the response of the bid closing. The Bidder must be compliant on each item to be considered responsive. **M:** Mandatory with the bid, **48 Hrs.** must be provided within **48 hours** of the written request, **5 days if indicated:** Must be provided within **5 working days** of the written request:

No.	Solicitation Reference	Solicitation Reference	Description	Period	Document provided
	Front Page	Front Page	<u>Request for Proposal to Tender</u> document part 1 page 1 completed and signed;	48hrs.	<input type="checkbox"/>
	Part 3	3.2	Section 1- Technical Bid	M	<input type="checkbox"/>
	Part 3	3.2.3	Drawings and Documentations	M	<input type="checkbox"/>
	Part 3	3.2.5	Vessel construction experience	M	<input type="checkbox"/>
	Annex D	Annex D	Detailed Financial Presentation Sheet	M	<input type="checkbox"/>
	Part 3	3.2.2	Inspection and Test plan (ITP)	48 hrs.	<input type="checkbox"/>
	Part 3	3.2.4	Subcontractor List	48 hrs.	<input type="checkbox"/>
	Part 3	3.2.6	Naval Architect and Engineering	48 hrs.	<input type="checkbox"/>
	Part 3	3.2.7	Contractor's Quality Management System	48 hrs.	<input type="checkbox"/>
	Part 3	3.2.8	Insurance requirement	48 hrs.	<input type="checkbox"/>
	Part 3	3.2.9	Welding Certification Bid	48 hrs.	<input type="checkbox"/>
	Part 3	3.2.10	Preliminary Work Schedule	48 hrs.	<input type="checkbox"/>
	Part 3	3.3.4	Electronic Payment of Invoices - Bid	48 hrs.	<input type="checkbox"/>
	Part 6	6.5.3	Contractor Representative	48 hrs.	<input type="checkbox"/>

ANNEX H - to PART 3 OF THE BID SOLICITATION

ELECTRONIC PAYMENT INSTRUMENTS

As indicated in Part 3, clause 3.1.2, the Bidder must identify which electronic payment instruments they are willing to accept for payment of invoices.

The Bidder accepts any of the following Electronic Payment Instrument(s):

- () Direct Deposit (Domestic and International);
- () Electronic Data Interchange (EDI);
- () Wire Transfer (International Only);