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LETTER OF INTEREST
LETTRE D'INTÉRÊT

Title - Sujet RFI - Multi-Role Boat	
Solicitation No. - N° de l'invitation W8472-155557/B	**Date** 2018-07-26
Client Reference No. - N° de référence du client W8472-155557	**GETS Ref. No. - N° de réf. de SEAG** PW-$$MC-033-26923
File No. - N° de dossier 033mc.W8472-155557	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2018-08-10**	**Time Zone** **Fuseau horaire** Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☐ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Davies, Neil	**Buyer Id - Id de l'acheteur** 033mc
Telephone No. - N° de téléphone (819) 420-0865 ( )	**FAX No. - N° de FAX** ( ) -
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:** Specified Herein Précisé dans les présentes	

Comments - Commentaires

Instructions: See Herein

Instructions: Voir aux présentes

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

Delivery Required - Livraison exigée See Herein	**Delivery Offered - Livraison proposée**
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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**	

Issuing Office - Bureau de distribution
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Canada

Request for Information

Department of National Defence

Multi-Role Boat

Nature of Request for Information

The Multi-Role Boat (MRB) project will procure thirty (30) MRBs to replace the existing PC Rigid Hull Inflatable Boat (RHIB) capability for the Royal Canadian Navy (RCN) on the Halifax class vessels. The MRBs will be used for Naval Boarding Party (NBP) operations, drug interdiction, search and rescue, diver support, cargo and personnel transfer.

This document is not a bid solicitation. This Request for Information (RFI) will not result in the award of any contract. As a result, potential suppliers of any goods or services described in this RFI should not reserve stock or facilities, nor allocate resources, as a result of any information contained in this RFI. Nor will this RFI result in the creation of any source list.

Furthermore, whether or not any potential supplier responds to this RFI will not preclude that supplier from participating in any future procurement. Also the procurement of any goods or services described in this RFI will not necessarily follow this RFI.

This RFI is simply intended to seek feedback from Industry with respect to the MRB Information Package in Annex A and questions to industry in Annex B.

Nature and Format of Responses Requested

Respondents are requested to provide their answers to the questions supplied in Annex B. Respondents are also requested to provide any feedback, comments or concerns they may have to this RFI. Respondents can also provide comments regarding the content, format, and/or organization of any draft documents included in this RFI.

Response Costs

Canada will not reimburse any respondent for expenses incurred in responding to this RFI. Respondents will have no claim for damages, compensation, loss of profit, or allowance arising out of providing answers and comments to the attached Annex B.

Treatment of Responses

Use of Responses: The responses received may be used by Canada to develop or modify procurement strategies or any draft documents contained in this RFI. Canada will review all responses received by this RFI.

Review Team: A review team composed of representatives of the Department of Public Services and Procurement Canada (PSPC) and the Department of National Defence (DND) will review each response. Canada reserves the right to hire any independent

consultant, or use any Government resources that it considers necessary to review any response.

Confidentiality: Respondents should mark any portions of their response that they consider proprietary or confidential. Canada will handle the responses in accordance with the *Access to Information Act*.

Activity: Canada may, in its discretion, contact any respondents to follow up with additional questions or for clarification of any aspect of a response.

Contents of this RFI

This RFI contains the following documents:

1. MRB Technical Information Package – Annex A
2. Questions to Industry – Annex B

Comments regarding any aspect of the documents are welcome.

These draft documents remain a work in progress and respondents should not assume that new clauses or requirements will not be added to any bid solicitation that may ultimately be published by Canada, nor should the respondents assume that none of the clauses or requirements will be deleted or revised.

Questions to Industry

This RFI also contains specific questions addressed to industry at Annex B. The small vessel construction and electronic/navigation marine systems industry are encourage to respond.

Responses to any of these questions are welcome and will help assist with procurement strategies and technical decisions.

Enquiries

Because this is not a bid solicitation, Canada will not necessarily respond to enquiries in writing or by circulating answers to all potential respondents. However, respondents with questions regarding this RFI may direct their enquiries to:

Contracting Authority: Neil Davies at neil.davies@pwgsc-tpsgc.gc.ca

All communications regarding this Request for Information must be directed to the Contracting Authority to ensure fair and transparent treatment of all respondents.

Submission of Responses

Time and Place for Submissions of Responses: Responses should be provided by August 10, 2018, however they can be sent in prior to the closing date and they may be sent to:

Neil Davies

Public Services and Procurement Canada

Marine Services and Small Vessel Sector

Small Vessel Construction Division

Place du Portage, Phase III, 58-6C2

11 Laurier Street, Gatineau, Quebec K1A 0S5

Or by email to: neil.davies@pwgsc-tpsgc.gc.ca

Responsibility for Timely Delivery: Each respondent is solely responsible for ensuring its responses are delivered to the Contracting Authority on time to the correct locations listed above.

Identification of Responses: Each respondent should ensure that its name, return address, and responses to questions in Annex B are clearly indicated.

Annex A
Multi-Role Boat
Technical Information Package

TABLE OF CONTENTS

1. MULTI-ROLE BOAT PROJECT

1.1. Introduction

Canada has a requirement to acquire new ship's boats for the *Halifax*-class frigates. These vessels will be referred to as Multi-Role Boats (MRB).

The MRB is envisaged as an advanced C4ISR platform for the parent frigate. The integration of the marine systems control, navigation, communication, and situational awareness systems has been termed the Electronic Suite (ES). It is expected that a compliant ES solution will potentially require special engineering skills.

MRB operations include but are not limited to: Naval Boarding, Drug Interdiction, Search and Rescue, Diver Support, Cargo and Personnel Transfer.

The MRB acquisition contract will include the following major deliverables: 30 boats, 24 Shock Mitigating Cradles, Initial Cadre Training (ICT), Technical Data Package (TDP) for total systems sustainment and two (2) years of identified spares to ensure expected reliability. The deliverables will be delivered to Canadian Forces Bases (CFB) located in Halifax and Esquimalt.

Detailed project work and requirements will be released through the Request for Proposal (RFP) on BuyandSell.gc.ca. The anticipated date for release of the RFP is fall 2018.

2. INFORMATION FOR BIDDERS

2.1. Controlled Goods Registration

In order to be awarded the contract, Contractors are required to be on the Control Goods registry and be capable of handling Control Goods and related information. It is anticipated that in order to comply with the performance requirements contained within the System Requirements Document (SRD), the Contractor will be subject to International Traffic in Arms Regulations (ITAR).

Bidders will be required to have Controlled Goods registration and any requisite security clearances at time of bid submission.

For information about registration and complying with Controlled Goods regulations, please visit:

1) Controlled goods: Examining, possessing or transferring – http://www.tpsgc-pwgsc.gc.ca/pmc-cgp/index-eng.html
2) How to meet Controlled Goods Program requirements – http://www.tpsgc-pwgsc.gc.ca/pmc-cgp/comment-how-eng.html
3) Contact the Controlled Goods Program –

http://www.tpsgc-pwgsc.gc.ca/pmc-cgp/communiquer-contact-eng.html

2.2. Facility, Workforce, and Eligibility Criteria

Currently, the MRB requirement falls under the small vessel construction component of the National Shipbuilding Strategy (NSS), whereby the MRBs must be built in Canada. The successful bidder performing the work must have a facility geographically located in Canada.

The MRB requirement will include a mandatory Aboriginal Participation Component (APC) under the Procurement Strategy for Aboriginal (PSAB) program. The APC may be up to 1% of the Contract value.

3. MRB HIGH LEVEL REQUIREMENTS

3.1. General Requirements

The principal particulars must fall within the following range:

1) Length Overall (LOA): Less than or equal to 9.2 metres;
2) Beam Overall (BOA): Less than or equal to 3.5 metres; and
3) Approximate “Light Ship” Weight: 3000 kg.

The MRB must be operated by 2 crew (Coxswain and Navigator) and must accommodate 10 Naval Boarding Party (NBP) personnel (125 kg per person).

The MRB must meet all specified Transport Canada regulations and selected Classification (“Class”) Society notations for this vessel type.

The expected Class Society notations will cover:

1) Construction and/or manufacturing of the vessel’s machinery and components and any associated required testing, as applicable, are carried out under a Class Society;
2) Compliance with the Hull requirements of the Class Rules or their equivalent for unrestricted ocean service and survey by the Class Society during construction of the vessel;
3) The vessel’s machinery and systems have been constructed and installed under Class Society survey in accordance with the requirements of the Class Rules for Building and Classing High-Speed Craft;
4) The vessel’s structure which has been reviewed based on the limitations given in a particular operational envelope which is to be part of the Operations Manual for the MRB; and
5) Naval Vessels that are intended to operate on a coastal voyage with a maximum distance from safe harbor of 300 nautical miles (nm) and a maximum voyage of 150 nm from a safe harbor when operating in the Winter Seasonal Zones as indicated in Annex II of the

International Conference on Load Lines, 1966. It is noted that the vessel from which the MRB is launched becomes the "safe harbor".

The MRB must be built in accordance with approved drawings, using materials and type approved products that are tested, inspected and certified by a Class Society or body with acceptable delegated authority.

The Class Society must be recognized under Transport Canada's Delegated Statutory Inspection Program (DSIP).

New cranes are also required to launch and recover the MRB; however, the crane acquisition is being managed through a parallel procurement process and project team and will not form part of the resulting RFP for the MRB contract. Similarly, ten (10) trailers will be procured through a parallel procurement process and will not form part of the resulting RFP for the MRB contract.

Upon finalizing the MRB design, the Contractor must provide Canada with MRB technical information to facilitate trailer procurement, design and construction. Logistics for trailer delivery can be arranged at a later date if necessary to facilitate MRB deliveries.

Included as part of the MRB procurement are 24 cradles. The cradles will be unique in their design and the following main requirements will be expanded upon through the release of the RFP:

1) First, the Contractor must design the cradle to be removable from the deck of the *Halifax*-class Frigate through some type of quick installation and release system. It is envisaged that the quick release arrangement will be an established system, such as International Standards Organization (ISO) twist locks, or some other type of similarly commercially available system.
2) Second, the cradle must be designed and delivered to receive a variety of hull forms inclusive of the MRB. There are a number of Unmanned Surface Vehicles (USV) which may be embarked on the *Halifax*-class in place of the MRB, as such the cradle must have the means to adapt to a variable hull shapes . The shock requirements only apply to MRB in the cradle and not to the other possible vessels or vehicles.
3) Third, the cradle must be designed to mitigate shock (see Section 3.4 for details) to ensure the MRB is operational after an explosive event (underwater explosion).

Sustainment of the MRB will be carried out through a separate procurement process.

3.2. Environment

The MRB will operate in the following environmental conditions:

1) Ambient air temperatures from -40 ºC to +48 ºC;
2) Sea water temperatures from -2 ºC to +35 ºC;
3) The MRB must be capable of performing operations in sea states as indicated below:
   a. Fully conduct operations in up to and including Sea State 5;

b. Conduct emergency operations in the full Sea State 6 envelope; and
c. Capable of surviving, in the stowed position, in up to and including Sea State 9.

4) Wind speeds up to 50 knots; and
5) The MRB and fitted equipment must be capable of being stored or transported in temperature conditions from -55 ºC to + 50 ºC.

3.3. MRB Propulsion

The MRB must have twin, inboard or outboard, diesel engines fitted with appropriate drives and steering mechanisms to enable high performance manoeuvring and acceleration in conditions up to and including Sea State 3.

The system must provide the thrust required for transition to plane speed without thrust breakdown and without exceeding OEM cavitation recommendations. The Contractor must select and supply the propellers to optimize vessel performance.

The MRB must have fuel storage capacity sufficient for an endurance of not less than 150 nm with the MRB travelling at a speed of 40 knots at 80% throttle in SS1 in the fully loaded weight condition, and with 10% fuel reserve remaining, at end of life.

3.4. Human Factors and Ergonomics

The Contractor will have to ensure that the performance of the delivered boats allow for fully crewed high-speed operations in adverse conditions.

The Contractor will have to demonstrate that ergonomics are optimized for high speed operations in adverse conditions.

The MRB must have shock mounted seating for all 12 personnel onboard.

The MRB shock seating must be adjustable and reconfigurable to quickly provide maximized unobstructed deck space for boarding party operations of 1.8m in the longitudinal direction by 2.15m in the transverse direction.

The MRB must be able to survive shock as required by the Specification for Design and Test Criteria for Shock Resistant Equipment in Naval Ships (CFTO D-03-003-007/SG-000) or Shock Tests HI (High Impact) Shipboard Machinery, Equipment and Systems, Requirements (MIL-DTL-901E), due to its role as a life raft marshalling craft.

The Contractor will be expected to arrange shock testing logistics and delivery of the first article boat and cradle to the Hi-Test Labs shock testing facility located in Arvonia, Virginia, USA. The Contractor is responsible for all shipping and handling costs. Canada will be responsible for all remuneration to the shock testing facility for shock testing of the MRB and cradle.

4. ELECTRONIC SUITE INTEGRATION & OPERATIONAL PERFORMANCE

4.1. Control Console

The control console will be used to efficiently integrate the control of navigation, communication, situational awareness and marine systems. The control console must be ergonomically optimized for high shock operations and environments.

The control console must be positioned forward in the boat and have a position for the Coxswain, port side, and a position for the Navigator, starboard side, in a side-by-side arrangement.

The control console must be arranged so that the Navigator can assist the Coxswain in safe navigation; operating the radios and electronic navigation equipment as well as operate their own console.

The integrated control console must have only two (2) multi-function display screens (at least 12 inch), with one display at the Coxswain's position and one display at the Navigator's position.

The integrated console must have a shatter-proof, non-glaring windshield which should offer ballistic protection for small arms fire up to 7.62 mm.

The integrated console should be constructed to provide ballistic protection for critical systems housed within, from small arms fire up to 7.62 mm.

4.2. Navigation Systems

MRB must be capable of independent navigation over the horizon from the parent ship and must have the capability to record and send positional information to other units through the communications system.

The MRB must be fitted with a modern, integrated navigation system and display that is capable of using DND and commercially available maritime navigation electronic charts. The navigation system must include and interface with the following RHIB equipment:

1) Navigational radar system with an automatic radar plotting aid (ARPA);
2) Through-hull transducer depth sounder/speed log;
3) Heading sensor;
4) Global Positioning System (GPS); and
5) Automatic Identification System (AIS), class A with the ability to manually cease transmitting and/or receiving.

4.3. Communications Systems

The MRB communications system must be capable of transmitting simultaneous voice and data to send and receive information to and from the parent ship and other supporting assets to aid in building tactical picture and situational awareness.

The Coxswain, Navigator or embarked personnel must be able to interface with the voice circuits through marinised microphone and speaker systems (ex. headset with integrated microphone).

The Coxswain must be able to engage the voice circuits using a “push-to-talk” function without removing hands from the throttle or wheel.

All communication controls must be audible during all operating conditions, readily accessible and operable from each console position.

The MRB must be capable of manually ceasing all electronic transmissions while maintaining all receiving functions.

The MRB communications suite must have the following equipment:

1) Software defined radio(s) capable of secure and non-secure communications, within and beyond line-of-sight (LOS), capable of simultaneous transmission and reception of voice and data. The transceivers must have the flexibility to support 4 radio circuits (at least 2 simultaneously) and multiple waveforms, including:
   a) HF (capable of data communications at 100+ Kbps) to a range of 60 nm;
   b) VHF (capable of digital selective calling);
   c) UHF (supporting multiple waveforms in use by national and allied forces); and
   d) Satellite communications (SATCOM – including capability for Mobile User Objective System (MUOS) connectivity).

2) Requirements for data communications between MRB and parent ship are:
   a) Line of sight standard definition video streaming within 5 nm;
   b) Line of sight image and video files within 10 nm;
   c) Line of sight and beyond line of sight transmission of text commands within 60 nm.

3) A routed interconnection capability to send data to/from input/output devices (e.g. keyboard/tablet/smartphone) and the MRB’s central control system;

All secure MRB radios and equipment required for installation will be provided as Government Furnished Equipment (GFE) utilizing a Standing Offer (SO).

4.4. MRB Antennas

The MRB antennas must be optimized for performance across all supplied transceivers and for satellite communication system ability.

The MRB antennas must be sited to avoid physical contact with equipment and personnel due to environmental conditions.

4.5. MRB Electro-magnetic Compatibility & Interference

The MRB system must have maximum electro-magnetic compatibility (EMC), meaning the minimum (and acceptable) negative effects regarding electro-magnetic interference (EMI).

All electronic equipment and systems, must be sited, installed, grounded, bonded and shielded:

1) In accordance with industry standards and OEM recommendations;
2) To allow simultaneous operation of all electronic equipment;
3) To comply with the requirements for EMC and for EMI reduction;
4) To protect personnel, fuel and ordnance from the hazardous effects of electromagnetic radiation; and
5) For EMC, for EMI reduction, radiation and safety.

4.6. Situational Awareness Systems

The MRB must be capable of providing near real-time video and infra-red (IR) imagery to the console mounted multi-function displays.

The system must provide the capability to search, detect, classify and identify vessels of interest in luminance conditions ranging from direct unobscured sunlight to overcast starlight in all but the worst maritime environmental conditions.

The infrared and visible spectrum capability must be able to operate in environmental conditions specified in Section 3.2 to provide short-range identification capability as well as longer range classification capability, meeting the following requirements:

1) Provide detection of a 10 m vessel to maximum possible range for the line of sight from its fitted elevation;
2) Be capable of detecting a person on the upper deck of a target vessel at 500 m, to assess activities and possible potential threats;
3) Be capable of detecting a person in the water at a range of not less than 2000 m;
4) Be located to minimize obstruction from other MRB sensors and antenna while optimizing 360 degree azimuth scan, and elevation scan of -35 to +85 degrees;
5) Have a stabilized line of sight; and

6) Be capable of near real time imagery generation and imagery recording in a common format to support transmission to other units.

5. Basic Delivery Information

1) Seventeen (17) MRB must be delivered to Halifax.
2) Thirteen (13) MRB must be delivered to Esquimalt.
3) Fourteen (14) cradles must be delivered to Halifax.
4) Ten (10) cradles must be delivered to Esquimalt.

6. Conceptualization

Below are high fidelity conceptualizations of a possible MRB variant. The conceptualization has been used as a tool to test the feasibility of Canada's technical requirements. The depicted figures are non-binding and non-contractual; they simply represents a possible permutation of MRBs performance requirements. The conceptualization has been, and continues to be a tool used to vet and trial requirements and solutions. The conceptualization represent a compliant arrangement scrutinized to precise dimensions. The conceptualization is subject to change and should only be used to indicate project scope and intent more clearly.

Figure 1: Shock Seats Open and Moved into an Operational Seating Arrangement

Figure 2: Shock Seats Stowed to Provide the Required Boarding Party Area.

FIGURE 1: Shock Seats Open and Moved into an Operational Seating Arrangement

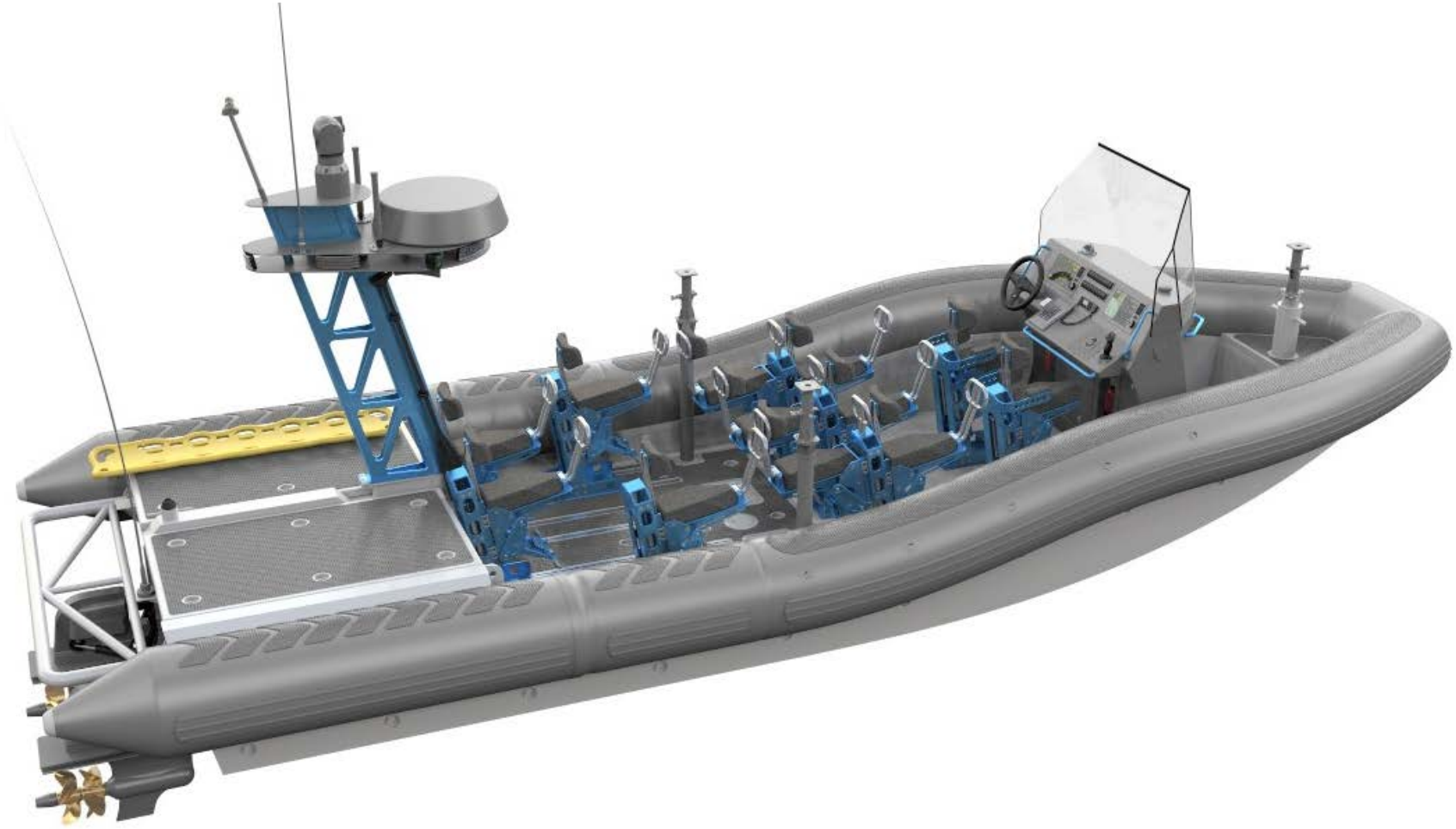

FIGURE 2: Shock Seats Stowed to Provide the Required Boarding Party Area

Annex B
Questions to Industry

1. Is the potential Bidder registered with the Controlled Goods Program? If not, do you foresee a problem in becoming registered prior to bid submission?

2. Does the potential Bidder have experience working with Controlled Goods?

3. Does the potential Bidder have a facility geographically located in Canada?

4. Does the potential Bidder have experience integrating navigation, communication, situational awareness and marine systems equipment into Multi-Function Displays?

5. Does the potential Bidder have the capability to integrate the electronic suite as described in Section 4 of Annex A?

6. If the potential Bidder does not possess the in-house integration expertise in Q4, how will the desired expertise be accessed? What are the associated risks?

7. Are there any technical requirements listed Annex A that may be beyond your ability to deliver? If yes, please provide details.

8. Are there any technical requirements listed in Annex A that you believe are not possible for any 9.2m platform?

9. Do you have experience working with a Classification Society?

10. Please provide an estimated price for one (1) MRB and differentiate between the boat price and electronic suite/integration price.

11. Please provide an estimated price for thirty (30) MRBs and differentiate between the boat price and electronic suite/integration price.

12. Please provide an estimated price for one (1) cradle.

13. Please provide an estimated price for twenty four (24) cradles.

14. Please provide an estimated price for initial operator and maintainer training.

15. Please provide an estimated price for operations manuals, technical manuals, and maintenance manuals.

16. Please provide an estimated price for delivery of thirty (30) MRBs and twenty four (24) cradles to the appropriate Canadian Forces Bases as per Annex A, section 5.

17. Please provide an estimated price for delivery of a Technical Data Package.

18. Please provide an estimated price for all of the work and deliverables described in Annex A and indicate the fidelity of the estimate; i.e. plus or minus X%.

19. Please estimate the time required to design, accept, build, and deliver the first article.

20. Please estimate the steady state production rate, in weeks, between boat deliveries.