



**RETURN BIDS TO:**

**RETOURNER LES SOUMISSIONS À:**

Bid Receiving - PWGSC / Réception des soumissions -  
TPSGC  
11 Laurier St. / 11, rue Laurier  
Place du Portage, Phase III  
Core 0B2 / Noyau 0B2  
Gatineau, Québec K1A 0S5  
Bid Fax: (819) 997-9776

**SOLICITATION AMENDMENT  
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

**Comments - Commentaires**

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

**Issuing Office - Bureau de distribution**  
Ship Refits and Conversions / Radoubss et  
modifications de navires and / et  
11 Laurier St. / 11, rue Laurier  
6C2, Place du Portage  
Gatineau, Québec K1A 0S5

<b>Title - Sujet</b> Shock Mitigation Seats Sièges de barre atténuant de chocs	
<b>Solicitation No. - N° de l'invitation</b> F7049-210159/A	<b>Amendment No. - N° modif.</b> 003
<b>Client Reference No. - N° de référence du client</b> F7049-210159	<b>Date</b> 2022-06-08
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$MD-039-28674	
<b>File No. - N° de dossier</b> 039md.F7049-210159	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> Eastern Daylight Saving Time EDT <b>on - le 2022-06-21</b> Heure Avancée de l'Est HAE	
<b>F.O.B. - F.A.B.</b>	
<b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Blackburn, Jessica	<b>Buyer Id - Id de l'acheteur</b> 039md
<b>Telephone No. - N° de téléphone</b> (819) 230-2672 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

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

N° de l'invitation - Solicitation No.  
F7049-210159/A  
N° de réf. du client - Client Ref. No.  
F7049-210159

N° de la modif - Amd. No.  
003  
File No. - N° du dossier  
039md.F7049-210159

Id de l'acheteur - Buyer ID  
039md  
N° CCC / CCC No./ N° VME - FMS

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**Amendment 003 to the Solicitation is raised to:**

- 1. Respond to Vendor Questions;**
  - 2. Revise Statement of Work;**
  - 3. Provide revised Statement of Work;**
  - 4. Provide New Document.**
- 

**1. Respond to Vendor Questions**

Question 1: SOW Item 3.19 - The requirements for the enclosed bridge and the open bridge will result in unique seat configurations with several weight differences. The largest weight difference will be associated with the two specified ride heights of the seats. With respect to the weight requirement in section 3.19, can the supplier use the weight of the boat set 440lb (200kg), or an average weight of all of the seats to determine technical acceptance for 3.19?

Response 1: The supplier can use the weight of the boat set 440lb (200kg), or an average weight of all of the seats to determine technical acceptance for 3.19.

Q2: 3.21 - Can the technical authority confirm the nature of the lock that is required for the armrests in section 3.21? In the weight sensitive nature of the procurement, is the intention of the requirement for a mechanical lock to be fitted to each armrest, or will a friction lock which maintains the stowed or deployed position of the armrest be accepted?

R2: A friction lock which maintains the stowed or deployed position of the armrest will be accepted.

Q3: 3.24 - Can the technical authority confirm the requirement of the seat swivel capability in section 3.24. Is the intent of the swivel to include the seat, armrests, fore/aft and footrest assemblies in rotation about the pedestal axis?

R3: The requirement for the seats to swivel is no longer necessary.

Q4: 3.29 - Can the technical authority confirm the requirement of the fore and aft capability in section 3.29. Is the intent of the adjustment to include the seat, armrests, and footrest assemblies in fore aft motion?

R4: The intent of the adjustment is to include the seat, armrests, and footrest assemblies in fore aft motion.

Q5: 3.30 - Can the technical authority confirm the nature of the lock that is required for the footrest in section 3.30? In the weight sensitive nature of the procurement, is the intention of the requirement for a mechanical lock to be fitted to the footrest, or will a friction lock which maintains the stowed or deployed position of the footrest be accepted?

R5: A friction lock which maintains the stowed or deployed position of the footrest will be accepted.

Q6: 3.32 - Can the technical authority confirm if the mounting bracket that is required for the enclosed bridge seats, to accommodate the Hypro Joystick in section 3.32 must be included in the seat weight calculations?

R6: The mounting bracket that is required for the enclosed bridge seats, to accommodate the Hypro Joystick in section 3.32 is not required to be included in the seat weight calculations.

Q7: 9 - Can you please expand on the requirement for Transport Canada Marine Safety (TCMS) certification?.

R7: Section 9.1 is removed as TCMS has no requirement to approve or review certification for vessel seating.

**2. Revise Statement of Work**

**At Annex A - Statement of Work –**

**Item 3.21:**

**Delete:** Each of the two arm rests fitted to each of the helm seats must rotate from a horizontal lowered position to a vertical raised position for access into and out of the seat. The arm rests must be fitted to the left and right side (or inboard & outboard) of each seat at a

height proportionate to the chairback/seat design. Each arm rest must lock in both the raised and lowered positions.

**Insert:** Each of the two arm rests fitted to each of the helm seats must rotate from a horizontal lowered position to a vertical raised position for access into and out of the seat. The arm rests must be fitted to the left and right side (or inboard & outboard) of each seat at a height proportionate to the chairback/seat design. Each arm rest must lock in both the raised and lowered positions or have an adjustable friction pivot that prevents unwanted movement in place of lockable armrests in both raised and lowered positions.

**Item 3.30:**

**Delete:** Foot supports must swing up and down, and lock in each position.

**Insert:** Foot supports must swing up and down, and lock in each position, or have an adjustable friction pivot that prevents unwanted movement in place of lockable foot rests ,in both raised and lowered positions.

**Item 9.1:**

**Delete:** The supplied seats and pedestals must be approved by TCMS for heavy duty marine applications and must be delivered with certification documentation. Seats and pedestals must not be installed until certification is reviewed and approved by the Technical Authority

**3. Provide revised Statement of Work**

At Annex A – Statement of Work

**Delete:** In its Entirety

**Insert:** Annex A - Statement of Work as Revised June 8, 2022 at Solicitation Amd 003

**4. Provide Document**

Provide Following:

ASTM F1166-07 (2013) – Standard Practice for Human engineering Design for Marine Systems, Equipment, and Facilities

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED



# Requirement for 47' Motorized Lifeboat Shock Mitigating Helm Chairs

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## 1. Background

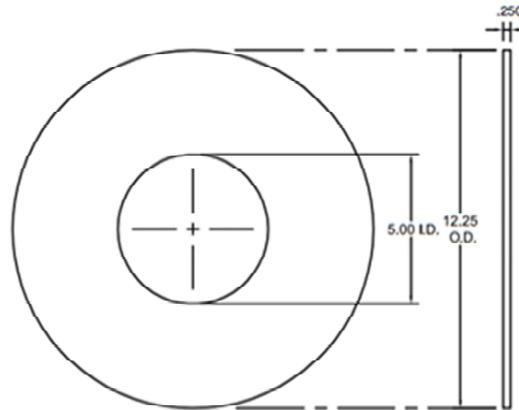
- 1.1. The Canadian Coast Guard operates a fleet of thirty-six (36) 47-foot Motorized Lifeboats at various locations across the country. Each vessel in the fleet is currently fitted with four (4) fixed helm chairs, with no shock mitigation, and four (4) jump seats with no shock mitigation.
- 1.2. Due to the extreme weather conditions that these vessels tend to operate in, or can be called upon to operate in, the seats pose the potential for personal injury due to the impact forces that are transferred through the hull, to the seat, and therefore the operator.

## 2. Scope of Work

- 2.1. The scope of this project will require the successful bidder to supply four (4) shock mitigating helm chairs for each of the thirty-six (36) vessels as part of their upcoming vessel life extensions. Total number of shock seats to be delivered is 144, with the option of 16 more.
- 2.2. The successful bidder must also provide assembly and installation instructions.

## 3. General

- 3.1. The seats provided by the Contractor must interface with the existing seat deck foundations which consist of:
  - 3.1.1.1. The bolt pattern is 11" Pitch Circle Diameter (PCD) with 8 equally spaced 5/16" fasteners; and
  - 3.1.1.2. The bolting foundation has an outside diameter of 12.25".
  - 3.1.1.3. See figure below:



DETAIL 7-F  
SEAT FOUNDATION PLATE  
4 REQD

Figure 1: Mounting Plate

- 3.2. Any modifications to the mounting plate or to the pedestal base must be at the expense of the Contractor.
- 3.3. Open and Enclosed Bridge Seats must be full isolation seats, meaning they must be fully supporting, shock mitigating, upright seats with seat pan, seat back, arm rests, and a lap belt.
- 3.4. The configuration must be a raised seat with foldable foot supports and adjustable armrests or similar arrangement to support the jog lever steering system. No jockey/rump seat will be considered.
- 3.5. Selected seats must accommodate weight for 5th percentile female (109.8 lbs) through 95th percentile male (267.2 lbs) IAW ASTM F1166-07 (2013) Standard Practice for Human Engineering Design for Marine Systems, Equipment, And Facilities. The seats must allow personnel to wear applicable personal protective equipment, which includes, but is not limited to, dry suit and personal flotation device.
- 3.6. Shock mitigating seats must be capable of mitigating shock for occupant payloads between 130 to 240 pounds up to 6Gs for a nominal impact duration of 0.10 seconds without bottoming the seat suspension.
- 3.7. Seats in failure mode must not allow a bottom-out event to occur in boat acceleration up to 7G.
- 3.8. All parts and materials must be corrosion resistant and suitable for continuous exposure to saltwater spray and sunlight.
- 3.9. The seat, including arm rests, must have full closed cell foam cushions contoured for lateral and lower back support.
- 3.10. Cushions must be covered with marine grade vinyl or other suitably acceptable wear and UV resistant material.
- 3.11. The seat soft materials must be fire retardant material in accordance with FMVSS-302.
- 3.12. Each seat must be equipped with a safety belt restraint system which secures the occupant to the seat through the full range of boat motions (360° of roll and pitch, or any combination thereof).
- 3.13. The safety belt restraint must have a single quick release mechanism.



- 3.14. Safety belt hardware, except the release mechanism, must be of a corrosion resistant material. Canada prefers the release mechanism to be made of a corrosion resistant material, including spring, but will accept mild steel for the release mechanism.
- 3.15. Safety belts for all seats must be identical unless otherwise specified.
- 3.16. All seat frame and outer pedestal surfaces must be resistant to exposure to sea water, ultraviolet rays and mechanical impacts, and be coloured white or black. All chairs must be the same color.
- 3.17. The seat must be designed to withstand the following motions and accelerations with a 250 lb occupant:
  - 3.18.1.1 Roll of 360°;
  - 3.18.1.2 Pitch of 360°; and
  - 3.18.1.3 Maximum Time for Rollover is 10 seconds.
- 3.19. Due to the impact of weight changes on this class of vessel, and the effect weight changes will have on vessel stability and rollover capabilities, each complete seat, shock mitigating system and mounting hardware must not weigh more than 110 lb (50 kg).
- 3.20. Due to the limited space within the enclosed bridge, the seats proposed by the Contractor must fit within + or – 10% of the existing seats space envelope. The existing seats are Stidd 500-200 Series, Full Size Admiral Low Back seats.
- 3.21. Each of the two arm rests fitted to each of the helm seats must rotate from a horizontal lowered position to a vertical raised position for access into and out of the seat. The arm rests must be fitted to the left and right side (or inboard & outboard) of each seat at a height proportionate to the chairback/seat design. Each arm rest must lock in both the raised and lowered positions or have an adjustable friction pivot that prevents unwanted movement in place of lockable armrests ,in both raised and lowered positions.
- 3.22. Seat adjustment controls must be reachable and usable from the restrained position in the seat for the full range of personnel.
- 3.23. All seats must be adjustable without tools. All adjustments must be limited to unlocking, adjustment, and locking motions. Adjustments must not have additional steps to position the seat for an operator.
- ~~3.24. Seats must be equipped with swivel capability. Deleted at Sol. Amd 002 – 05/25/2022~~
- 3.25. The seats and restraining system on the open bridge must allow the crew member to turn to see behind the boat.
- 3.26. The back rest angle on full isolation seats must be no more than 110 degrees from the deck plane. The back rest-to seat pan angle must be between 93 and 103 degrees.
- 3.27. The enclosed bridge seats must have a minimum vertical height adjustment of 6” with adjustment and lock at any point within the range. The seat must have graduated markings indicating pedestal height adjustment. The height from base (where it mounts to the bolting foundation on the vessel) to top of horizontal seat cushion must be 30.5” (775mm) at the minimum setting. An automatic lifting device must be fitted to the seat pedestal/foundation to assist with the height adjustment.
- 3.28. The Open bridge seats must have a minimum vertical height adjustment of 6” with adjustment and lock at any point within the range. The height from base (where it mounts to the bolting foundation on the vessel) to top of horizontal seat cushion must be 32.8” (833mm) at a minimum. An automatic lifting device must be fitted to the seat pedestal/foundation to assist with the height adjustment.



- 3.29 The enclosed bridge seat must slide fore and aft at least 5" (126mm) with adjustment and lock at any point within the range.
- 3.30 Foot supports must swing up and down, and lock in each position or have an adjustable friction pivot that prevents unwanted movement in place of lockable foot rests ,in both raised and lowered positions.
- 3.31 The two open bridge seats must come equipped with removable weather covers to protect the seats from UV damage and wear due to the elements when not in use.
- 3.32 The enclosed bridge seats must each have a mounting arrangement to accept a Hypro Marine joystick fitted on the outboard armrest. For details, refer to Hypro Marine Joystick Assembly Drawing - HM1973 - Joystick Assy Spring Iss4. The Contractor is not required to supply the Hypro Marine joysticks.
- 3.33 All dissimilar/noble metals must be galvanically isolated from each other.
- 3.34 All parts must be manufactured from nonmagnetic marine grade materials.
- 3.35 The Contractor is responsible for all costs associated with crating/packaging the helm chairs for shipment.
- 3.36 The Contractor is responsible for all shipment costs of the helm chairs.
- 3.37 The Contractor must provide a one (1) year manufacturer's warranty covering all defects for helm chairs starting from the date of delivery.

#### **4 Reference Documents**

- 4.18 Drawing Number 47B MLB 600-010 – Outfit and Furnishings List
- 4.19 Drawing Number 47B MLB 110-630 – Enclosed Bridge Arrangement
- 4.20 Hypro Marine Joystick Assembly Drawing - HM1973 - Joystick Assy Spring Iss4
- 4.21 ASTM F1166-07 (2013) - Standard Practice for Human Engineering Design For Marine Systems, Equipment, and Facilities
- 4.22 Federal Motor Vehicle Safety Standard No. 302 (FMVSS 302), Flammability of Interior Materials

#### **5 Schedule**

- 5.18 The first three vessels started VLE in November and December of 2021. Each VLE work period will take a total of five and one half (5.5) months.
- 5.19 Contract will be for the delivery of 144 seats (36 vessels) with the option of an additional 16 seats.
- 5.20 The Contractor must send the seats directly to Coast Guard Facilities to be installed by Coast Guard Personnel.
- 5.21 The Contractor must provide a production/supply schedule to demonstrate the least amount of time required for delivery of 144 shock mitigating helm chairs.

#### **6 Work Location**

- 6.1.1 Twenty four (24) seats must be shipped to:
  - Canadian Coast Guard
  - Stores 05C - Warehouse Door #1
  - 13 Akerley Blvd



Dartmouth, NS  
B3B 1J6

6.1.2 Twenty four (24) seats must be shipped to:  
MPO/GCC/Atelier naval, C-200  
Institut Maurice Lamontagne,  
850, route de la Mer, C.P. 1000,  
Mont-Joli, Québec,  
G5H 3Z4

6.1.3 Forty four (44) seats must be shipped to:  
Canadian Coast Guard | Garde Côtière Canadienne  
Fisheries & Oceans Canada | Pêches et Océans Canada  
867 Lakeshore Road  
Burlington, ON  
L7S 1A1

6.1.4 Fifty two (52) seats must be shipped to:  
Marine Engineering, Coast Guard  
Institute of Ocean Science  
9860 West Saanich Road  
Sidney, BC, V8L 4B2

## 7 Inspection

7.1 A visual inspection by the Contractor and Technical Authority in attendance, of general workmanship including that of hardware, materials, and coatings must be conducted.

## 8 Testing

8.1 The Contractor must provide testing specifications for the shipyards or Coast Guard personnel to comply with. The testing must include, but is not limited to:

- demonstrate all functions of the seats and pedestals to the Technical Authority.

## 9 Certification

9.1 ~~The supplied seats and pedestals must be approved by TCMS for heavy duty marine applications and must be delivered with certification documentation. Seats and pedestals must not be installed until certification is reviewed and approved by the Technical Authority.~~ Deleted at Solicitation Amd 003 dated June 8, 2022

## 10. Deliverables

10.1 The Contractor must supply the Technical Authority with an electronic copy of drawings of the seats, pedestals and installation.



- 10.1.2 The Contractor must amend the original drawings (Drawing Number 47B MLB 600-010 – Outfit and Furnishings List & Drawing Number 47B MLB 110-630 – Enclosed Bridge Arrangement) to show the installation of the new seats.
- 10.1.3 The Contractor must produce two (2) electronic PDF copies of a final report for the Technical Authority upon completion of the above noted scope of work. The final report must be available in both official languages and must contain the results of all inspections, testing, manufacturer information, part numbers and details of work completed.
- 10.1.4 The Contractor must include all associated manuals and documentation related to this statement of work in English and French.