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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

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Title - Sujet MULTI ROLE BOAT (MRB) SYSTEM	
Solicitation No. - N° de l'invitation W8472-155557/C	Amendment No. - N° modif. 006
Client Reference No. - N° de référence du client W8472-155557	Date 2019-04-17
GETS Reference No. - N° de référence de SEAG PW-\$\$MC-031-27100	
File No. - N° de dossier 031mc.W8472-155557	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2019-06-03	Time Zone Fuseau horaire Eastern Daylight Saving Time EDT
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: Langdon(031mc), Jeremy	Buyer Id - Id de l'acheteur 031mc
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Signature	Date

Amendment 006 is raised to update Annex D - Bidder Questions and CANADA Responses and to make the following changes to the solicitation:

1. Delete **Annex D - Bidder Questions and CANADA Responses** in its entirety and replace with the following:

Annex D

Bidder Questions and CANADA Responses – As of April 01, 2019

W8472-155557 – MULTI ROLE BOAT (MRB) SYSTEM

- Q1. From Part 6, Para 6.1 & Part 7, Para 7.3. There are no security requirements associated with this bid solicitation, yet the Contractor is expected to integrate secure radios provided as GFE (see SOW 3.3.9). Please confirm the security requirements associated with the contract.
- A1. Equipment with security requirements for the MRB is to be “fitted for but not with.” It is not intended that the Contractor be required to handle or store Classified information or equipment.
- Q2. From Part 7, Para 7.27. Naval Boarding Party equipment will be provided as GFE and “must be fit” to the boat. Multiband V/UHF Radios will be provided as GFE and “to be used to fit for but not with” on each boat. Please explain the different obligations for each. Please provide drawings and if applicable associated documentation for these items prior to RFP closing in order to properly estimate integration effort and cost.
- A2. GFE which “must be fit” will be supplied by Canada for integration and installation into each MRB. GFE which is “to be used to fit for but not with” is GFE that will not be provided to the Contractor, nor is the Contractor expected to store, handle, or purchase these systems; however Canada will provide data to ensure correct integration of these systems after Contract Award.

For further clarification please see the response to Question 3 below.

- Q3. From Part 7, Para 7.27. MRB-308 indicates gun mounts are GFE, MRB-601 indicates a power converter is provided as GFE, MRB-602 indicates a power distribution box is GFE, etc. Para 7.27 and the SOW/SRD should be rationalized (per Para 7.11 in the event of conflict the Articles of Agreement take precedence).
- A3. The GFE items identified under 7.27 are deleted in their entirety and replaced with the following:
- a) The following radio systems equipment, must be fit in each MRB;
 - i. Quantity 1 12-28V DC/DC Power Converter;
 - ii. Quantity 1 28V Distribution Box;

- iii. Quantity 1 Antenna Couple;
- iv. Quantity 2 Multiband/multichannel RF Amplifiers;
- v. Quantity 1 Rugged HF Whip Antenna;
- vi. Quantity 1 Multiband Wideband capable UHF/L/5 band whip antenna COMROD UHF2252000VM or equivalent;
- vii. Quantity 1 Multiband capable UHF band whip antenna, model VALCOM VMB-11512-N or equivalent;
- viii. Quantity 1 UHF TacSat antenna capable of (MUOS, DAMA, IW and dedicated modes) model COMROD UHF2433805 or equivalent;

b) One set of the following Naval Boarding Party GFE will be supplied to ensure storage arrangements are suitable;

- i. Quantity 1 Pole Telescopic, Swimmer;
- ii. Quantity 1 Pole Telescopic;
- iii. Quantity 1 Pole, Swimmer, Telescopic;
- iv. Quantity 2 SKED;
- v. Quantity 1 Grappling Hook, Rap;
- vi. Quantity 2 Wheel, Cable;
- vii. Quantity 1 Hand Pole Stabilizer;
- viii. Quantity 1 Hook Grapnel;
- ix. Quantity 1 Hook Grapple;
- x. Quantity 2 Ladder Wire Compact;
- xi. Quantity 1 Base, Pole, Quick Release, Flexible;
- xii. Quantity 1 Deployment Reel, Ladder;
- xiii. Quantity 1 Marine Grapnel.

c) The following radio systems GFE is to be used to fit for but not with on each DND MRB, as follows:

- i. Quantity one (1) Multiband V/UHF radio;
- ii. Quantity one (1) Multiband Inter/Intra Team Radio; and
- iii. Quantity two (2) radio headsets.

SRD requirements MRB-603 and MRB-604 are also deleted in their entirety and replaced with the following:

MRB-603: The MRB must be fit for but not with a multiband/multichannel V/UHF/L/S band radio (GFE) with an installation envelop of 5 inches x 4 inches x 10 inches.

MRB-604: The MRB must be fit for but not with a multiband HF/VHF radio (GFE) with an installation envelop of 11 inches x 13.5 inches x 22 inches.

- Q4. From Part 7, Para 7.29. The Contractor will have Total System Responsibility (TSR) for the work performed and the TSR includes system design and total systems integration, which includes associated software. Given that radios (including secure radios) are GFE, please provide the necessary details of the specific GFE C4ISR equipment, including associated software, prior to RFP closing in order to properly estimate integration effort and cost.

- A4. Only the Multiband V/UHF radio and Multiband Inter/Intra Team radio are GFE. Any other radio(s), such as the marine VHF radio required by the Life-Saving Appliance Code, required to meet the MRB SRD are to be supplied by the Contractor.

Detailed information related to the integration of the GFE radios will only be provided to the Contractor after Contract Award. Bidders are to assume that the selected integration solution for the MRB C4ISR system (less the GFE radios and associated equipment) can interface directly to the GFE radios. Additional cost, if any, to acquire proprietary software from the GFE radio supplier to effect this integration will be borne by Canada.

- Q5. From Part 7, Para 7.29. The Contractor will have Total System Responsibility (TSR) for the work performed and the TSR includes system design and total systems integration, which includes associated software.
- a) Will the Contractor be expected to integrate the MRB C4ISR Suite with the Halifax-class frigates?
 - b) If so, what level of integration is anticipated?
 - c) Is the Contractor expected to interact with the Government of Canada or the Halifax-class frigate Combat Systems Integrator (CSI) with regards to systems integration?
 - d) If the latter, is the MRB bidder expected to price any costs charged by the HCM-CSI into its price?

A5.

- a) No.
- b) Not Applicable.
- c) No.
- d) Not Applicable.

- Q6. From Annex B, Total Estimated Cost for 2 Years of Spares and Special Tools. Please describe what is to be included in this line item. Is it only the predicted operational spares required for 1st and 2nd line maintenance, or does it also include items that may unexpectedly break (and will Canada assign blame for breakage to itself or to the Contractor and will the Contractor be given the opportunity to review/challenge this assignment)?

- A6. *Annex B - Total Estimated Cost for 2 Years of Spares and Special Tools* only includes the predicted operational spares and special tools required to support the identified MRB operational availability for 2 years.

- Q7. From Annex B, Total Estimated Cost for 2 Years of Spares and Special Tools. Please explain the obligations of the Contractor with respect to Canada's right to negotiate which spares will be delivered. Will the contract price be adjusted if Canada desires the quantity of spares to be adjusted?

- A7. If Canada elects to purchase more or less spares than identified in the proposed Spares and Special Tools list then the Contract will be renegotiated to reflect this change.

Q8. From Annex B, Para 1. Option for EO/IR Cameras – Canada requires that these cameras be available for purchase until nearly five years after contract award. The same configuration of these cameras cannot be assured for such a long duration, and Canada will pay a premium if the price is to be maintained for that duration. Suggest the option validity period be reduced to 24 months.

A8. The option period is now reduced to 24 months following Contract Award.

Q9. From SOW Para 3.3 & SOW Para 3.4. Additional information must be provided to bidders in order to properly scope and price the effort associated with interfacing to GFE. Please provide the OEMs and Part Numbers for the equipment that will be provided as GFE. If the Contractor is to obtain this information directly from the OEMs, what assurance does a Contractor have that the OEMs will provide this information? Does Canada already have the intellectual property rights to this data or will the bidder/contractor need to buy these rights and data?

A9. Please see responses to Question 4. Canada has the rights to supply this information to the Contractor after Contract Award.

Q10. From SRD MRB-017 & 146. Due to the requirement of operating the propulsion system in the cradle (prop must be fully lowered to do so), the maximum overall length of the 9.2m must therefore be measured with the prop lowered, is this correct?

A10. This is not correct. The maximum length of 9.2m must not be exceeded in any condition in which the MRB is stored or maintained (1st and 2nd line maintenance) on the Halifax-class in its cradle.

Q11. From SRD MRB-063.

- a) LSA code requires propeller guards which have a dramatic effect on performance - will this be an exemption?
- b) LSA code requires marine VHF with DSC. There is no marine VHF required in the communications requirement (598) - is this an exemption?
- c) Self-righting is a requirement for LSA Rescue Boats (063) and it is also inferred in 159 - ventilation openings, 174 - engine inversion switch, 237 - engine restart and 489/490 - battery installation. Please advise if a Self-Righting system is a mandatory requirement.

A11.

- a) Yes, Canada will exempt MRB from this specific LSA requirement.
- b) No, Canada will not exempt MRB from this specific LSA requirement.
- c) Self-Righting is desirable but not a required capability of the MRB. MRB must allow the engine to restart after a capsize and subsequent righting, the subsequent right may require additional assistance and not be an organic MRB capability. Canada will exempt MRB from this specific LSA requirement.

Canada would like to reiterate that as per MRB-063 "Canada reserves the right to invoke specific Military exceptions. Exemptions will be finalized during the design phases."

Q12. From SRD MRB-075, 079 & 080. Does this mean 4 leg sling with master link at apex to allow for single point lift as per 090?

A12. Yes.

Q13. From SRD MRB-081. Does this mean it is desirable to have an alternative lifting possibility with 3 leg sling with master link at apex for single point lift as per 090?

A13. Yes.

Q14. From SRD MRB-082. Does this mean it is desirable to lift with 2 slings - 1 forward and 1 aft? Is there a required fore/aft spacing between the lift points?

A14. Yes. As a non-mandatory requirement there are no additional criteria related to the lift point placement.

Q15. From SRD MRB-083. What is the failure mode envisioned?

A15. The envisioned failure mode is the breakage of a sling leg, the second eye hole in the lifting lugs would be emergency backup.

Q16. From SRD MRB-092 Is this requirement solely defining the sling master link and not implying supply of the release hook?

A16. Yes. The release hook is not part of the supply.

Q17. From SRD MRB-094. The 2:1 safety factor is on the Ultimate strength of materials; please confirm this supersedes the 6:1 on Ultimate strength requirement in IMO LSA Code (063).

A17. Appendix 1, MRB-094 is amended to the following:

The MRB must have boat lift points with a certified Safe Working Load (SWL) of not less than the Fully Loaded condition with a minimum safety factor of 6.

Q18. From SRD MRB-095. Does the 10:1 safety factor only apply to the Dyneema slings (076), shackles and master link and not to the permanently installed lifting hardware on the boat which is covered by 063 and/or 094?

A18. Yes. The safety factor of 10:1 does not apply to lifting hardware permanently installed on the boat.

Q19. From SRD MRB-103. What is meant by 80% throttle? Is it the ratio of engine RPM to max rated RPM, engine power to max rated power or boat speed to max speed at full power?

A19. "80 percent throttle" represents 80 percent of the as-delivered installed MRB engine power.

Q20. From SRD MRB-128. Does the 150% margin only apply to sensors and navigation system and not to the communication system?

A20. Yes.

Q21. From SRD MRB-260. How many tie down point are required?

A21. Appendix 1, MRB-260 deleted in its entirety and replaced with the following:

Appendix 1, MRB-260 , The MRB engine compartment hatch(es) must have not less than eight flush mounted, tie-down points that are suitable to hold 230 kg of equipment when operating up to and including SS5.

Q22. From SRD MRB-295. Please define the term "Open Cockpit".

A22. An "Open Cockpit" is one which does not enclose or shelter personnel and cargo from the surrounding environment.

Q23. From SRD MRB-535. Is this cover only for when the boat is not in use?

A23. Yes.

Q24. From SRD MRB-566-568. The requirement stipulates a fitted navigation system that utilizes DND and commercially available maritime navigation electronic charts. Must this system be compatible with fitted navigation systems in Halifax-class frigates?

A24. No.

Q25. From SRD MRB-599. Please identify where in the SRD are the details on the GFE that will enable bidders to estimate the cost of cabling, integrating, mounting and integrating (for example, our costs may differ if our system has already integrated one radio but not another).

A25. Appendix 1, MRB-601 through MRB 619 identify physical and electrical connections specific to the GFE radios and associated GFE components.

For further clarification Please see response to Question 4.

Q26. From SRD MRB-601. What is weight of 12-28 vdc converter?

A26. 7.71 kg.

Q27. From SRD MRB-602. What are dimensions and weight of 28 vdc distribution box?

A27. 11" x 7.6" x 4.7" – Weight 1.0 kg

Q28. From SRD MRB-603.

- a) Is V/UHF/LS band radio installed on dash?
- b) Is environmental protection required?
- c) What is receive/standby/transmit power requirement?

A28.

- a) The mounting location for the GFE Multiband V/UHF radio is to be confirmed during the design phases.
- b) The GFE Multiband V/UHF radio does not required additional environmental protection.
- c) The GFE Multiband V/UHF radio has the following power requirements: RX/Idle >0.6 Amps, TX: 2.2 Amps (Max) with 10W bursts on R/T/1 and 3.2W R/T/2. (All measurements assume 26.8 VDC).

Q29. From SRD MRB-604

- a) Is HF/VHF band radio installed on dash?
- b) Is environmental protection required?
- c) What is receive/standby/transmit power requirement?

A29.

- a) The mounting location for the GFE Multiband Inter/Intra Team radio is to be confirmed during the design phases.
- b) The GFE Multiband Inter/Intra Team radio does not required additional environmental protection.
- c) The GFE Multiband Inter/Intra Team radio has the following power requirements: RX/Idle: 1 Amp Max, (0.6 A typical) TX: 5 Amps (Max) @ 20W output. All measurements assume 26.8 VDC.

Q30. From SRD MRB-618. Please confirm there are only 2 stations required (as per 607, 608) for the intercom.

A30. Confirmed.

Q31. From SRD MRB-641. With regard to the detection of the person in the water at 2km:

Please confirm how to evaluate the size and status of the person in the water. Is the person supposedly in a survival suit? Is the person mainly floating at the surface of the water or would only a head and shoulders be visible above the water?

Can we assume the size of the body floating at the surface to be 1.8m x 0.5m average dimensions?

A31. Bidders are to assume the "person in the water" is floating on the surface with a projected area to the MRB EO/IR camera of 1.8m (long) x 0.5m (high).

Q32. All RCN training, in the past, has specified it had to be CFITES and SCORM 2004 3rd edition compliant. It is not mentioned in this RFP. Is this an oversight or not a requirement?

A32. It is not a requirement.

Q33. The possible solution includes rigid-hull inflatable boats and proposals also require the provision of training and potentially simulation solutions. Given the current evolution in maritime training, we are wondering, whether the training plans article 2.17 and DID-T-001 Training Plan in the reference, may include a Fast Response Boat (FRB) Simulator. If so, how would a proposal be scored with the inclusion of a FRB simulator(s) for the RFP evaluation?

A33. Inclusion of Simulators are not a requirement. Proposals will be scored in accordance with the specified scoring system in ANNEX M of the RFP.

Q34. For the information requested in the Mandatory and Point Rated tables, we request that the "Bidder" can include the needed information from tier 1 suppliers.

A34. For the purposes of this RFP, all criteria, including the Mandatory and Point Rated technical criteria must be met by the Bidder. For greater certainty, "Bidder" means the person or entity (or, in the case of a joint venture, the persons or entities) submitting a bid to perform a contract for goods, services or both. It does not include the parent, subsidiaries or other affiliates of the Bidder, or its subcontractors.

Q35. From SRD MRB-087. Is there a maximum height for the apex master link?

A35. Yes. The maximum height of the apex master link is approximately 3.50 m above the deck of the Halifax class when the MRB is in its cradle. This number will be confirmed with the contractor during the design phase.

Q36. From SRD MRB-152. We require an annual hours of operations estimate with breakdown of the hours (i.e - estimated time at idle, time at low speed, time at cruise speed, time at 80% throttle, time at max). This detail is required to get application approval from the engine supplier.

A36. On a 200 consecutive day deployment the MRB engines will experience 400 hours of usage, an average of 2 hours per day using the applied speed profile.

Max (40+ kn)	High Speed (35-40kn)	Cruise (10-34 kn)	Low (1-9 kn)	Idle (0 kn)
3%	10%	24%	36%	27%

Q37. From SRD MRB-275. In order to confirm hoisting trim requirement 093 and storage provisions more info is required on the NBP equipment.

A37. The following sizes are based on the current equipment, during critical design the exact equipment sizes will be confirmed.

Equipment	Ext. Length (mm)	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Quantity
GRAPPLING HOOK, RAP		304.80	406.40	469.90	2.27	1
POLE,TELESC,SWIMMER	15000.00	4100.00	72.00	72.00	15.50	1
POLE,TELESCOPIC	15200.00	4000.00	60.00	60.00	23.90	1
POLE,SWIMMERS,TELESCOPIC	8000.00	1900.00	54.00	54.00	4.00	1
WHEEL,CABLE		40.00	133.00	286.00	1.30	2
HANDLE,POLE STABILISER		434.00	234.00	40.00	2.11	1
HOOK,GRAPNEL		220.00	322.00	367.00	1.01	1
HOOK,GRAPPLE		220.00	322.00	367.00	0.94	1
LADDER,WIRE,COMPACT		406.40	406.40	150.00	4.22	2
BASE,POLE,QUICK RELEASE,FLEXIBLE		177.80	177.80	292.10	3.00	1
DEPLOYMENT REEL,LADDER		476.25	476.25	298.45	3.90	1
GRAPNEL,MARINE		238.00	145.00	226.00	0.59	1

Q38. From SRD MRB-483. "Full electrical draw for lights and radios" for 6 hours will require very large battery bank and seems unusual (eg. - floodlights, handheld searchlight, blue law enforcement lights don't normally operate continuously for long periods of time). Do the "lights" only refer to navigation lights and/or IR strobe? For the radios - what is the ratio of receive/standby/transmit and what is the power draw for each mode?

A38. MRB battery system must be sized to provide power 3 hours of power for continuous navigation lighting, operation of radios for 15 minutes per hour, continuous searchlight operation, and continuous EO/IR camera operation without running the engines while having sufficient power in reserve for two engine starts.

Q39. Paragraph 3.1.4, Exchange Rate Fluctuation, identifies Standard Acquisition Clauses and Conditions (SACC) Manual clause C3010T (2014-11-27), Exchange Rate Fluctuation Risk Mitigation which is used when it is proposed to offer bidders a choice to mitigate their risk by having Canada assume the risks and benefits of exchange rate fluctuations. SACC C3010T is used in conjunction with SACC Manual clause C3015C, Exchange Rate Fluctuation Adjustment.

Would Canada please confirm that SACC Manual clause C3015C (2017-08-17), will be incorporated by reference into and form part of the resulting contract?

A39. Canada confirms that SACC Manual clause C3015C (2017-08-17) will be incorporated into and form part of the resulting contract if the Bidder requests Canada to assume the risks and benefits of exchange rate fluctuations.

Q40. Is it acceptable for the Bidder to provide a cash neutral milestone payment plan?

A40. Canada may review suggested changes to the milestone payment structure once it has entered into contract with the winning Bidder.

Q41. From Annex M, Appendix 2. 1.d). What is unique about the requirement for Communication Equipment Experience on a qualifying vessel as opposed to another military or commercial platform?

A41. For purposes of Technical rated evaluation only experience gained on a *qualifying vessel* will be counted for criteria.

Q42. Please confirm that DID-M-007 applies to newly created and not legacy drawings, and that it is not intended for the Contractor to convert any existing drawings to comply with the requirements stated in the DID. Please confirm.

A42. DID-M-007 only applies to formatting of newly created drawings.

Q43. From SRD Requirement MRB-540. Please confirm whether this is a mandatory or desirable requirement.

A43. This is a mandatory requirement.

MRB-540 is to be deleted in its entirety and replaced with the following:

"The MRB multi-function displays, all indicators, gauges and lights on the console **must** turn on at the last dimming setting."

Q44. The requirement for the Technical Bid is to address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Please confirm that only those points subject to the evaluation criteria in Annex M need be addressed in the response.

A44. All mandatory technical criteria are contained within Annex M. In addition to the mandatory technical criteria, Bidders must also respond to any other mandatory criteria contained within the RFP including, but not limited to, the Financial Bid, Certifications, etc.

Q45. DID-T-001 Instruction 2.0 states "All Contractor supplied training and the training material must be provided in English and French."

In addition to the training documentation that is to be provided in both languages, is it the intent of this solicitation to require training conduct also be provided in both English and French?

A45. Yes this is the intent.

Q46. In DID-T-001 Training Plan, what training level (per CFITES) is expected with Initial Cadre Training?

A46. Initial Cadre Training must be provided at a level where theory and principles enable critical thinking with independent and correct performance of duties and tasks.

Q47. SRD MRB-638 and MRB-639 state that the "EO/IR camera must be installed within 15 minutes by one person wearing PPE."

This instance of PPE is not defined. Please clarify what Personal Protective Equipment is included in this requirement.

A47. EO/IR camera securing components and fixtures to have simple arrangements that personnel can operate with a gloved hand. Personnel must be able to install the EO/IR Camera when dressed in PPE outfits, which includes but is not limited to, without having to remove items of dress;

- 1.) combat gear - NBP member equipped with body armour restricting maneuverability;
- 2.) heavy weather gear - bulky wet weather gear (ie: float jacket or floater suit);
- 3.) Search And Rescue gear - wet/dry suit with gloves, neoprene material; and
- 4.) Winter gear - inclusive of all gloves and mittens.

The exact models to be confirmed during the design phase.

Q48. SRD MRB-630 states "The MRB EO/ IR camera must have, as a minimum, High Definition 1080p media capture capability." MRB-645 states "The MRB EO/IR camera system must produce near real time imagery in a format compatible with GFE radios which can be readily recorded and transmitted."

Is there a requirement to provide recording, storage and playback on-board the MRB?

A48. Yes.

Q49. SRD MRB-635 states, "The MRB EO/IR system must search, detect, and track user identified targets of interest in luminance conditions ranging from direct unobscured sunlight to overcast starlight."

Does this requirement apply to the sensor only, the display, or both?

A49. This requirement applies to both.

Q50. Section 4.1, Phased Bid Compliance Process (PBCP), of Part 4, Evaluation Procedures And Basis Of Selection, contains the following statement in Section 4.1.1.1(b), paragraph 2: "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."

Are the "Mandatory Evaluation Criteria" in Annex M, Appendix 1 the only criteria used in Phase I and II of the PBCP process to determine whether a bid is compliant /

responsive? The above referenced statement uses the term "Mandatory Requirements" and not "Mandatory Evaluation Criteria." For clarification purposes, recommend the following change to the above referenced 4.1.1.1(b), paragraph 2:

Change From: "...EVEN FOR MANDATORY REQUIREMENTS WHICH WERE SUBJECT TO REVIEW IN PHASE I OR II"

Change To: "...EVEN FOR MANDATORY EVALUATION CRITERIA WHICH WERE SUBJECT TO REVIEW IN PHASE I OR II".

- A50. Phase I of the PBCP consists of a review of the Financial Bid to ensure all of the required financial information has been submitted. Phase II of the PBCP consists of a review of any eligible mandatory evaluation criteria. In the case of this RFP, Phase II applies only to the criteria listed in Annex M, Appendix 1, Tables 5 & 6.
- Q51. Can we submit a proposal based only on one element of the RFP or must the proposal be based on all criteria?
- A51. The RFP is for the entire MRB system including the boats, cradles, cameras, etc. In order for a submission to be considered compliant it must address all of the mandatory requirements of the RFP.
- Q52. From Annex B. The Milestone shows a separate amount for delivery of the cradles. Are the cradles not to be delivered with the boats?
- A52. They are to be delivered with the boats, however the payments and milestones are separate because not every boat will come with a cradle.
- Q53. From Pricing sheets page 42. Are the incremental milestone percentages based on the sub-total amount in A column C?
- A53. The incremental milestone percentages are based on the sub-total amount in A column A. Price Table 1 will be amended to indicate this field should be completed.
- Q54. From Pricing sheets page 43. Please define what number should be inserted in this line item?
- A54. This line item will be completed by Canada at a later date.
- Q55. From Pricing sheets Total Est cost of spares Page 40.
- a) You ask for a breakout of the spares. Is this a pricing breakout part number etc.?
 - b) Is this a mandatory item?
 - c) Can the customer provide a definition of 2 year recommended spares? This can vary greatly from one supplier to another.
- A55.

- a) The Bidder must provide a single price for 2 years of recommended spares and special tools required to support the identified MRB operational availability for 30 platforms.
- b) Yes, the breakout is informational only its provision with the bid is mandatory.
- c) "2 years of spares and special tools" is to be taken as all of the spares and special tools required to support the identified MRB operational availability for 2 years.

Q56. From SRD MRB 541.

- a) Can DND fully describe what is envisioned for NVIS displays? For instance engine suppliers and navigation panels to not come with NVIS filters available.
- b) Is this expected to be an aftermarket add on?

A56. The solution to the provision of NVIS compliant console displays and gages is the Bidders responsibility.

Q57. From SRD MRB 565. Is AIS information acceptable for vessel position relayed to the ship?

A57. No. While AIS will be relayed to the ship when operational, the GPS must interphase with the multi-purpose ruggedized computer to feed positional information to the secure Radios for the relay to the ship as well.

Q58. From SRD MRB 616.

- a) Is the computer to be mounted on the console and is it to be waterproof protected?
- b) Is the computer to be constantly linked to the crew comms, radios, nav and sensor systems? Please describe what sensors are to be linked to the computer, this could be bilge sensors, alarms ect. or just what is specified.

A58.

- a) No. The ruggedized multi-function computer is to be housed within the console.
- b) Yes. The multi-purpose ruggedized computer must be linked to all sensors and systems necessary to comply with the requirements identified as having to interface with the two control console multi-function displays as stated in the SRD. Bidders may utilize the multi-purpose ruggedized computer to interface other sensors and equipment to the multi-function displays that are not explicitly required in the SRD.

Q59. From SRD Drawings. Since the vessel drawings will be classed and approved by class we see no reason to provide structural drawing with the bid package, we suggest that a set of good GAs with various views be included with the bid package. Please confirm.

A59. The Bidder may provide General Arrangement drawings as part of the objective evidence required to meet certain Mandatory Technical Criteria.

- Q60. From RFP 3.1.1. This section describes that the bidder must demonstrate understanding of the technical requirements. Can you please confirm the 'technical requirements' includes the SRD. As normally the SRD would be titled TSOR.
- A60. Confirmed.
- Q61. From Annex M, 1.1-1.3, to confirm these mandatory technical requirements only apply to Annex M?
- A61. Confirmed.
- Q62. With respect to MRB-641, the dimensions provided for a human body in the water (1.8m x 0.5m) are not realistic. It should be assumed that only the human head is entirely above the surface of the water. Please provide additional clarification.
- A62. Bidders are to assume the "person in the water" is floating on the surface horizontally with floatation assistance and is projecting an area to the MRB EO/IR camera of 1.8m (long) x 0.5m (high)."
- Q63. Please clarify that the conditions applying to a joint venture bid are all set out in "Standard Instructions - Goods and Services - Competitive Requirements, item 17 (2010-01-11) Joint Venture" and in Part 5, Certifications.
- A63. The Bidder must meet the requirements of the solicitation. We draw to your attention that there are numerous joint venture requirements in the solicitation, including in Part 4, section in 4.2.4, Part 5, and Part 6.2.
- Q64. Can Canada confirm that a Joint Venture Bidder may rely on the experience of one of its members to meet any given mandatory or point rated experience/technical requirement of the solicitation?
- A64. Please see Part 4, Section 4.2.4 – Evaluation of Joint Venture Experience for further information.
- Q65. Clause 1.3.1 (c) states that all 30 MRBs are to be delivered within 42 MACA. Clause 7.4.2 requires all deliverables by 42 months after CDR. Clause 7.20.2(b) requires all MRBs be delivered by 42 months after CDR. Please confirm the required date.
- A65. The required date for all 30 MRBs is 42 months after CDR.
- Q66. Could Canada provide bidders with a copy of form PWGS-1105?
- A66. A copy of the 1105 form will be provided to the winning bidder at Contract Award.
- Q67. Resulting clause 7.20.3 does not clarify what the amounts to be deducted are. It is explained in Annex B of the RFP that the amounts to be deducted are holdback. Could Canada please clarify language of the Resulting clause 7.20.3 to state that the deductions are holdback and Canada will pay it as soon as outstanding Work is completed?

- A67. Canada confirms that the deductions are a holdback and will be payable by Canada to the Contractor *if* the outstanding Work items are completed by the Contractor and accepted by Canada.
- Q68. Would Canada agree for the total limit of liability to be capped at contract value?
- A68. The terms for Limitation of Liability may be found in section 7.35 and will remain unchanged.
- Q69. Would Canada agree to a disclaimer of special, incidental, indirect or consequential damages? i.e. that the Contractor's liability be limited to direct damages only.
- A69. The terms for Limitation of Liability may be found in section 7.35 and will remain unchanged.
- Q70. Clause 7.35 sub section 5 seems to be missing words at the end. Could Canada provide the missing part of the clause?
- A70. The full text of 7.35 sub section 5 should read as follows:
- "Nothing shall limit Canada's other remedies, including Canada's right to terminate the Contract for default for breach by the Contractor of any of its obligations under this Contract, notwithstanding that the Contractor may have reached any limitation of its liability hereunder."
- Q71. General - Can the authority confirm that it wishes the reference to TP-1332E and TP-1332 to mean the latest edition, that being TP 1332 Edition 6, 2010?
- A71. Canada confirms that the current latest edition of the Construction Standards for Small Vessels, TP-1332E April 2010, must be used. Please refer to SOW 1.6.1 for details on Applicable Documents.
- Q72. MRB-028 - Should the vessel carry all winterization spares/supplies and tools as part of the basic kit on-board?
- A72. Any MRB-specific equipment which is necessary for the winterization process must be carried onboard.
- Q73. MRB-035 - Can the Authority please provide a list of approved Classification Societies?
- A73. As of January 2nd, 2019, the list of recognized organizations includes American Bureau of Shipping (ABS), Bureau Veritas (BV), ClassNK, DNV GL, Korean Register, Lloyd's Register (LR) and RINA Services SpA. As this list is subject to change, please refer to Transport Canada for the latest list of recognized organizations under the Delegated Statutory Inspection Program (DSIP).
- Q74. MRB-048 & 050 - Can the Authority confirm the expected annual engine hours?
- A74. See answer 36.

Q75. MRB-074 & 657 - The cradle is required to be designed for shock. MRB-074 specifically states that the ships structure is not to be affected by the design. Can the Authority please confirm that the supplier will not be responsible for the failure of the Ship deck below the cradle following a shock event or if the cradle is to suitably reinforce the ships deck?

A75. The Contractor will not be held responsible for the parent vessel's deck failure from a shock event. Final mounting locations for the cradle are to be determined during the design phase.

Q76. MRB-078 - Can the authority please provide the definition of normal working position? i.e. all crew seated in seats, dimensions of payload equipment or space envelopes required.

A76. During all LARS evolutions, all personnel are assumed to be ergonomically seated in their respective shock mitigating seats.

Q77. MRB-083 & 092 - Can the authority confirm if the second eye hole applies to all lifting points? For example for a SOLAS approved lifting hook (as per MRB-063), is a second hook deemed to be required? Can the authority further confirm the required factors of safety for these secondary positions?

A77. MRB will have no hooks onboard. The second eye hole applies to all lifting lugs onboard. The safety factors for the secondary lifting lugs shall be the same as the primary lifting lugs.

Q78. MRB-084 & 086 - Can the authority confirm that it wishes to store 2 sets of straps for one lifting scenario, i.e. 2 sets of straps for lifting from 4 points giving a total of 8 straps?

A78. Confirmed.

Q79. MRB-093 - Can the Authority confirm how trim during lifting will be measured, i.e. the required Datum?

A79. Trim shall be measured relative to the working deck.

Q80. MRB-095 - Can the authority confirm that this requirement only applies to loose rigging equipment and not to fixed points on the vessel such as hooks or lugs?

A80. See Answer 18.

Q81. MRB-099, 347, 511 & 672 - Can the authority please provide a list of the PPE that is to be worn while operating all equipment on board?

A82. See Answer 47.

Q83. MRB-125 - Can the authority confirm that there is no range requirement only that the boat must be able to tow for the time that it takes to drain a full tank of fuel till empty?

A83. Confirmed.

Q84. MRB-129 - Can the authority confirm the weight of passengers is to be taken as 125 kg each?

A84. Confirmed.

Q85. MRB-129 - Can the authority confirm the space envelope of the cargo totalling 1250 kg?

A85. See MRB-299 and MRB-302. It is intended that the 1,250 kg of cargo will be located within the reconfigurable area.

Q86. MRB-129 - Can the authority confirm the CoG of item 5, miscellaneous boat equipment (50kg)?

A86. To be confirmed during design.

Q87. MRB-129 - Can the authority confirm the definition of the variable loads listed?

A87. Any loads inherent to operating the vessel that are not specifically listed within the SRD (i.e. fuel, lubricants, etc.).

Q88. MRB-133 & 134 - Can the authority confirm the datum position at which trim is to be measured?

A88. See Answer 79.

Q89. MRB-143 - Can the authority please confirm that the minimum visibility of the coxswain shall be no further than 15 m forward of the vessel bow?

A89. The text from MRB-143 is deleted and replaced with the following:

From the seated or standing position at the console, the coxswain and navigator must be able to see the water surface 15m in front of the bow or less while planning.

Q90. MRB-146 - Can the authority please confirm the water flow rate available on board the ship to determine if it will be sufficient for the engine cooling system.

A90. Any Halifax-class details will be provided after contract award.

Q91. MRB-182 - Can the authority confirm that two electric bilge pumps are required per a compartment?

A91. See MRB-179 to MRB-192. Number of bilge pumps is dependent on final compartment design.

Q92. MRB-263 - Can the authority please provide a definition of "lock"? Would a gas strut provide a suitable mechanism for supporting any open hatch?

- A92. In this context, a "lock" is a mechanical device that requires manual engagement to close the engine compartment hatch(es). The mechanisms to support open engine hatch(es) are to be finalized during the design phases.
- Q93. MRB-275 - Can the authority please provide weights and dimensions for each piece of equipment listed in this requirement?
- A93. See answer 37.
- Q94. MRB-276 - Can the authority confirm that the boarding poles in this requirement are referring to those in MRB-275?
- A94. Confirmed.
- Q95. MRB-277 & 063 - Can the authority confirm that all equipment required as per MRB-277 (TP14475E) is in addition to those required in MRB-063 (LSA, CH5.1) or the sum of the two should be taken minus duplicates?
- A95. Confirmed. Sum minus duplication.
- Q96. MRB-279 - Would the authority consider a flexible lashing system which is not flush mounted or stainless steel but is removable and corrosion resistant?
- A96. No.
- Q97. MRB-294 - Can the authority reaffirm the intent of this requirement, shall the handles be 500 mm away from the dive door each side or shall the handles be 500 mm apart themselves?
- A97. The dive handles must be separated by 500 mm from each other. The placement of the inner most dive handles with respect to the dive ladder and dive door must not create an obstacle for personnel using the dive ladder.
- Q98. MRB-301 - Can the authority confirm the assumed weight per a person?
- A98. The 5 additional personnel seated on the collar have a maximum weight of 125 kg each.
- Q99. MRB-304 - Can the authority please provide further information on the boarding pole and base plate, to include dimensions and loads?
- A99. Additional information about the boarding pole, base plate, and loads will be provided after Contract Award.
- Q100. MRB-306 & 307 - Can the authority provide further detail on the load requirements of the gun mounts? Are these mounts to be a "soft" mount which mitigates loading?
- A100. As per MRB-458 data for the weapons mount will be provided to the successful bidder at Contract Award.

Q101. MRB-331 - Can the authority confirm if the definition of "check valves" includes systems such as "transom socks"?

A101. Confirmed.

Q102. MRB-333 - Can the authority confirm the typo in the use of the word "which"?

A102. Confirmed.

Q103. MRB-337 - Can the authority please provide further definition and the scenarios resulting in "hull and console torsion" beyond wave loadings?

A103. There are no additional operational scenarios to define. In Canada's experience water and weather tight integrity of consoles and console electronics, specifically, have been compromised due to console deformation under the defined operational profiles. In the past, additional component sparing and maintenance has been required as a result of water and weather tight integrity failures. Additional sparing and maintenance must be avoided as a result of systems failures resulting from water infiltration.

Q104. MRB-340 - Can the authority provide further definition of "impact absorbing steering wheel"?

A104. The MRB impact absorbing steering wheel must lessen the impact loading experience by the coxswain relative to a rigid marine steering wheel not equipped with substantive impact damping. Additional definition can be provided after Contract Award.

Q105. MRB-347 - Can the authority confirm that all communications hardware is to be fitted inside the console? We are concerned this may not be possible due to antenna cable length restrictions. Can the authority please provide maximum cable lengths and cable types for each GFE antenna?

A105. Communications hardware is anticipated to be in the console but is not mandatory unless a particular piece of communications hardware must be engaged by the Coxswain or navigator during operations. GFE details to be provided after Contract Award.

Q106. MRB-349 & 350 - Can the authority provide the requirements for a non-ballistically protected windshield?

A106. The MRB windshield must be shatter-proof, non-glaring, and must have an adjustable height with a range of over the heads of the operators to 15 cm above the console.

Q107. MRB-352 - Can the authority confirm the allowable sector of coxswain's view that may be obscured by the mast?

A107. The sum of all MRB obstructions to the coxswain's 360 degree view must not be greater than 10 degrees, this does not include personnel in their PPE.

Q108. MRB-361 - Can the authority confirm if the ensign is to fly from the mast itself or a removable flag pole?

A108. The ensign should be flown from a mast or arch required to support mission systems in an appropriate location so not to damage or interfere with system and operational functionality.

Q109. MRB-414 - Can the authority clarify if the seat fittings should always be flush with the deck or need only be flush with the non-stick matting?

A109. The text from MRB-414 is deleted in its entirety and replaced with the following:

The MRB shock mitigating seat deck mounting hardware must be flush with the deck. Anti-skid matting must not interfere with the operation of shock mitigating seat deck mounting hardware, the installation, removal, or sliding of the shock mitigating seating.

Q110. MRB-421 - Can the authority confirm that it expects the vessel to be towed by a bollard on deck and not from a point on the bow near the waterline?

A110. Confirmed. However, a stem connection point near the waterline is expected for trailer winch operations and securing. See MRB-429 and MRB-431.

Q111. MRB-422 & 125 - Can the authority confirm if compliance with MRB-422 will count as compliance with MRB-125?

A111. Confirmed.

Q112. MRB-422 - Is this load to be applied as a load between the two transom points or the load applied to each point?

A112. The load is applied to each tow point.

Q113. MRB-423 - Can the authority confirm what this safety factor applies to, i.e. yield or ultimate strength?

A113. Static breaking strength (ultimate strength).

Q114. MRB-429 - Can the authority confirm the required load on these points? Can the authority confirm the bow point will not be used for towing?

A114. MRB-675 and 676 refer to dynamic transportation accelerations that the MRB might experience while being transported by road or rail. The loads on these points can be derived accordingly. The intention for the bow point is to be used for transportation only.

Q115. MRB-432 - Can the authority please confirm if this is the inner diameter of the eye?

A115. Confirmed.

Q116. MRB-449 - Can the authority please confirm if there are any surface finish requirements for the top of the pedestals where they interface with the GFE weapon mount? This is required to ensure accurate cost estimation.

A116. See MRB-458. See the Painting section starting at MRB-459.

Q117. MRB-456 - Can the authority confirm that the pedestal is to be of fixed height?

A117. Confirmed. The height range was provided to give the Contractor design flexibility.

Q118. MRB-457 - Can the authority please provide details of the Boarding party equipment?

A118. See answer 37.

Q119. MRB-491 - Does the authority wish the four batteries to be separated/used in any particular manner?

A119. Battery usage is to be determined by the Contractor.

Q120. MRB-497 & 500 - Can the authority provide clarification on the securing of cables? If the cables are in rigid conduits is it the conduits or cables that should be secured as per MRB-500?

A120. The conduit should be secured as per MRB-500 when size appropriately for the routed cables.

Q121. MRB-527 - Can the authority please confirm they wish the coxswain to be able to control vessel heel from the coxswain position? Is this dynamic or static heel?

A121. Confirmed, dynamic heel.

Q122. MRB-542, 543 & 544 - Can the authority please provide dimensions for all GFE HMI equipment required to be fitted to the console?

A122. HMI GFE data will be provided during the design phase.

Q123. MRB-552 - Can the authority confirm how this requirement will be measured since the communications equipment is to be supplied GFE and what are the requirements for antenna mounting?

A123. See SOW 3.3 3), 4), 5), 8), 3.4 3), SRD section MRB-549 and section MRB-555. When the Contractor is ready to calibrate, test, and trial a completed C4ISR suite, Canada will ensure the necessary GFE equipment is made available to complete the C4ISR system for testing.

Q124. MRB-565 - Can the authority confirm how this requirement will be measured since the communications equipment is to be supplied GFE?

A124. See answer 123.

Q125. MRB-602 - Can the authority please provide dimensions and weight of the 28 VDC distribution box?

A125. See answer 27.

Q126. MRB-647 - Can the authority confirm that blind supports are acceptable where structure is required to mount antennas?

A126. See answer 107.

Q127. MRB-650, 651 & 419 - Can the authority confirm if it wishes to be supplied with one or two tow lines and these are in addition to the anchor line outlined in MRB-419?

A127. MRB-651 is deleted in its entirety. Confirm that MRB-419 is in addition to MRB-650.

Q128. MRB-654 & 518 - Can the authority confirm it wishes to only be supplied with one hand held searchlight as described in MRB-518 which shall override any other requirement in the required standards?

A128. Confirmed.

Q129. MRB-663 & 664 - Can the authority please provide ship deck accelerations for SS9 to allow suitable cradle specification?

A129. Data related to the Halifax-class will be provided after Contract Award.

Q130. MRB-665 - Can the authority please confirm that it will act as the technical authority for the purposes of defining the shock testing of equipment mounted on the ship as defined in MIL-DTL-901E?

A130. Confirmed.

Q131. MRB-665 - Can the authority please confirm that Section 10 "Air Blast" of D-03-003-007/SG-000 does NOT apply?

A131. Confirmed.

Q132. MRB-665 - Can the authority confirm if the use of shock isolation devices are acceptable and if the authority has any restrictions on the type of devices used externally to the ship?

A132. Confirmed. Shock isolating devices are acceptable provided they are suitable for sustained exposure to a maritime environment.

Q133. MRB-665 - Can the authority define the boats condition during this shock trial, for example "full load" or "Full Fuel" etc.?

A133. The MRB fully loaded condition without personnel and cargo will be tested.

Q134. MRB-665 - Can the authority confirm that the proposed facility can accommodate a 9.2 m vessel?

A134. Confirmed.

Q135. MRB-665 - Can the authority confirm they will pay for any modifications required to the shock test barge?

A135. No. See SOW 6.3.1 12) and 13).

Q136. MRB-670 & 671 - Can the authority confirm that this requirement applies only after an initial fit of the cradle to mount quick attachment points?

A136. Confirmed.

Q137. MRB-675 & 676 - Can the authority confirm if these requirements satisfy MRB-663 and 664?

A137. No. The Contractor is responsible for demonstrating the solution chosen meets all mandatory requirements of the SRD.

Q138. MRB-675 & 676 - Can the authority confirm if these requirements do not supersede the shock test requirements?

A138. Confirmed.

Q139. From SOW 6.7.2(b), Annex B-Basis of Payment & SOW2.3.2 (3).The requirement for shock testing will void all warranties. Is it Canada's expectation that the MRB, including its subsystems, and Cradle used for Shock Testing will not be delivered to Canada.

A139. In accordance with SOW2.3.2 (3), all MRB platforms delivered to Canada must have all warranties intact.

Q140. From Annex B (Price Table 1), DID-M-001, DID-M-002 & D-03-003-024/SG-001. WORK BREAKDOWN STRUCTURE FOR CANADIAN FORCES SHIPS AND SUBMARINES section 1.2.1 indicates that "the use of this standard is applicable to all new surface ships, and submarines, and for the conversion and refitting of existing vessels. It is to be used as the basis for costing, weight recording and specification development." It is called out in this RFP. Can Canada please confirm how Groups 8 and 9 are to be mapped to the Contract Line Items identified in Annex B (Basis of Payment) Price Table 1. Please also confirm that this is the WBS to be used for DID-M-001/2.

A140. The basis of payment, defined Annex B, is not subject to the Canadian WBS, defined in Table 1.

The WBS in the CFTO is a suggested format but Bidders are free to use another WBS provided it has the requisite level of detail.

Q141. MRB-039 - Can the Authority please provide a list of suitable Regulatory bodies?

A141. Suitable Regulatory bodies may include Classification Societies listed as part of the Delegated Statutory Inspection Program (DSIP), US Coast Guard, Transport Canada, IMO, or equivalent, as agreed to by Canada. *Reference at question 223

Delete: MRB-039 in its entirety and replace with the following:

The MRB's navigation equipment must have a regulatory body certification or type approval.

Q142. MRB-063 - Can the authority also confirm if any certification or testing is to be carried out to ensure compliance as per normal certified rescue boats?

A142. Verification of requirement 063 must be included in the test plan which will be finalized post Contract Award. Any requirement of LSA that Canada does not issue an exemption for must be tested as described in the Code or other requirements.

Q143. MRB-076 - Can the Authority please provide details of the on board hook system that the vessel is to be lifted by for the purposes of specifying the lifting equipment?

A143. See SRD MRB-090, MRB-092 and Answer 77.

Q144. MRB-133 & 415 - Can the authority confirm the load cases in which the trim shall be measured, for example MRB-415 refers to a free deck arrangement, if this is to be used can the authority please specify the number of people and expected positions of each person.

A144. Trim will be measured in all load cases.

Q145. MRB-201 - Can the authority provide the definition of self-sealing and explosion proof related to diesel fuels?

A145. MRB 201 is deleted in its entirety.

Q146. MRB-207 & 208 - Can the authority confirm if the engine is to be running at full RPM on a single fuel filter?

A146. Confirmed.

Q147. MRB-218 - Can the authority confirm that since the console is likely watertight what is to be covered to prevent air from entering the console or is the authority referring to battery ventilation?

A147. The watertight integrity of the console is dependent on the Contractor's design. Watertight compartments, associated ventilation requirements, and fire suppression are to be determined during the design phase.

Q148. MRB-299 - MRB-299 states the configurable area must provide a completely free deck space un interrupted by permeant fixings. However, the requirement for a single point lift (MRB-075) would counteract this by virtue that the single point lift will need to be

positioned approximately in the centre of the reconfigurable area. The wording implies a rear engine position is this the intention?

A148. Canada is not mandating the engine location provided all SOW and SRD requirements are met. Canada's preference is to have stern mounted engines.

Q149. MRB-351 & 134 - Can the authority confirm which requirement takes precedence?

A149. Canada does not perceive these requirements to create a conflict hence both equally apply.

Q150. MRB-356, 371, 372 & 662 - Can the authority please provide document reference for Canada road transport requirements?

A150. Regulations can be found publicly through Transport Canada and the Department of Motor Vehicles (or equivalent) for provincial regulations.

Q151. MRB-419 - Can the authority confirm if this nylon rope is in addition to any other referenced standard requirements or in replacement of? Does the authority wish to only receive a nylon rope or are they expecting a chain as well?

A151. The nylon rope is in addition to other referenced requirements. Canada is not expecting chain.

Q152. MRB-455- Can the authority please provide details of the required operational envelope?

A152. Details to be provided during the preliminary design phase.

Q153. MRB-494 - Can the authority provide details on the type of receptacle required for the ships existing infrastructure, for example part number/ drawing?

A153. The MRB ship's power connection must be a 30 amp 125V connection.

Q154. MRB-527 - Can the authority please confirm if the trim control is referring to stern drive trim control or vessel dynamic trim control? Is this dynamic or static heel?

A154. This is referring to stern drive trim actuator control from the wheel or throttle. Trim control actuation (tabs or stern drive actuation) is for the Contractor to determine.

Q155. MRB-556 - Can the authority confirm that through the reference to MIL-STD-464C it wishes the vessel to only meet the requirements of section 5.9.1 which further references DODI 6055.11 which further references IEEE standards starting C95?

A155. Confirmed.

Q156. MRB-603 - Can the authority please provide a weight for the equipment?

A156. Radio and battery, 1.25 kg. Mount and cradle, 2.27 kg.

Q157. MRB-604 - Can the authority please provide a weight for the equipment?

A157. Shock mount and control, 5.13 kg. Radio, 3.95 kg.

Q158. MRB-605 & 609 - Can the authority please provide a weight for the equipment? Can the authority also confirm if the equipment requires environmental protection?

A158. Proposed Response: Antenna Coupler, 7.94 kg.

Radios, Intercom and PAs will require environmental protection. See MRB-033.

MRB-605 is amended as follows: "couple" is deleted and replaced with "coupler".

Q159. MRB-606 - Can the authority confirm if the mounts for antennas shall be supplied GFE?

A159. The mounts for antennas shall be supplied by the Contractor.

Q160. MRB-607 - Can the authority confirm if these items are to be GFE or should be included in any quote provided?

A160. Confirmed GFE.

Q161. MRB-608 & 607 - Can the authority confirm if MRB-607 and MRB-608 are referring to the same equipment?

A161. Confirmed.

Q162. MRB-610 - Can the authority confirm the GPS input requirement for GFE equipment?

A162. Both GFE radios will share an external GPS antenna that Canada will provide. This will be separate from any navigation system requirements as stated in the SRD.

Q163. MRB-611, 612, 613, 614 & 615 - Can the authority please provide a weight for the equipment?

A163. MRB-611: 1.59 kg.

MRB-612: 4.00 kg.

MRB-613: 3.31 kg.

MRB-614: 1.65 kg.

MRB-615: 5.13 kg.

Q164. MRB-648 - Can the authority confirm the purpose of the requirement is to mount the camera on the vessel centreline?

A164. Confirmed.

MRB – 648 is deleted in its entirety and replaced with the following:

The MRB EO/IR Camera must be located on centreline.

Q165. MRB-665 - Does the authority have pre-determined safety factors for shock in composites? D-03-003-007/SG-000, Appendix C, Section 1 only provides for materials that yield.

A165. Canada does not have a pre-determined safety factor for composite materials.

Q166. MRB-665 - Can the authority state if it will be providing a full response spectra for the deck at the position of the MRB stowage? This will provide the lightest solution for the MRB but will affect cost.

A166. Data related to the Halifax-class Frigates will be provided after Contract Award.

Q167. MRB-666 - Can the authority confirm if the cradle shall be lifted with the MRB collar inflated?

A167. Confirmed.

MRB-666 is deleted in its entirety and replaced with the following:

The MRB and cradle must be lifted by a crane with the cradle secured to the MRB and the crane secured to the lifting points on the MRB itself.

Q168. Section 1.3.1 (d) and 7.1 (c) of the RFP state that the vessels must be delivered with no more than 250 hours on the main engines. That is a lot of operations time for a small boat – is Canada open to accepting used or re-manufactured engines?

A168. Canada will not accept used or re-manufactured engines, components, or any other equipment. In accordance with 7.2.1 General Conditions 2030 para 08, material supplied must be new and conform to the latest issue of the applicable drawing, specifications and part number that is in effect on the bid closing date.

Q169. Section 4.2 refers to a “technical evaluation” but in Annex M there is no actual technical evaluation of the boat being offered. Canada is looking for experience and an unnecessary amount of project management experience, but there is no place for scoring on the actual boat. Will the RFP be amended to evaluate and award technical points to the actual boat being proposed?

A169. Canada will not amend the evaluation to award technical points to a boat being proposed.

Q170. Does the requirement for painted aluminum components apply to aluminum seat components too?

A170. Yes. However, if paint negatively impacts components the Contractor must specifically identify components they wish to be exempt from this requirement; exemptions will be granted at Canada's discretion.

Q171. Is the requirement for seats to be not less than 46 cm apply to the seat in its entirety, or just the area of the seat occupied by the user?

A171. This requirement only applies to the area of the seat occupied by the user.

Q172. Section 7.32 refers to the PDR and CDR (detailed in 2.1.8 of the SOW) and for the contractor to notify the Contracting Authority if the design, which is their design they bid with, will either meet or not meet the SOW. This is something that would normally be seen when the customer is providing the design from either an in-house source or a 3rd party design firm.

With this logic a bidder would be able to bid with a vessel knowing it can't meet the SOW and low bid the project, wait until contract award and then revise the price and the specifications using the various change provisions in the contract to meet their offering instead of the SOW.

This relates to the previous question, that the bidder can offer a boat that is less of a boat in terms of quality, performance and value to Canada and it not count for anything since all the points are on experience and project management capabilities.

Can you please confirm this?

A172. Canada is not asking Bidders to propose a vessel to be evaluated. After Contract Award, the chosen Contractor will go through the design phases (PDP and CDP) and design reviews (PDR and CDR) in accordance with 2.1.8 of the SOW, to ensure the vessel fully meets the requirements as specified in the Contract.

Q173. Annex A, section 1.3 (and again in section 2.1.8) notes that Canada is looking at a new design. Can Canada confirm they are not looking at using a proven, COTS design (with semi-custom outfitting details) and are willing to take the risk with awarding a contract to an un-proven design?

A173. Confirmed.

Q174. Annex A, section 1.5 refers to all the work being done at a single facility. Our company operates two of its own facilities and sub-contracts out metal work and other components to quality facilities in Atlantic Canada.

Will Canada confirm that various stages of production (including work completed by sub-contractors) can be done in separate facilities?

These facilities will adhere to the same QA/QC standards and will be available for inspection by Canada as outlined in the RFP.

A174. Annex A – SOW, para. 1.5 1) is deleted in its entirety and replaced with the following:

The Contractor must perform **final** assembly of all 30 MRBs in Canada at the same Contractor facility.

Q175. Annex A, section 2.1.8 (apart from 2.1.8.5 and some of 2.1.8.6) seems to be geared toward larger vessel procurement. Has Canada reviewed the unnecessary financial and time implications of these requests on a boat builder (most of this size category are SMEs) who have proven and compatible RHIBs?

A175. Yes. As the MRB is not based on a proven design, Canada deems this to be necessary to manage risk during the design process.

Q176. Annex A, section 2.1.8.6 refers to Classification Society approval of the MRB. Class Society Rules are not geared toward a vessel of this size and function. We would ask that Canada consider the following format approved by DND previously:

- Hull & Structure to Class Society
- Outfitting to Transport Canada TP1332
- Stability to ISO (as called out in TP1332)

A176. The MRB must meet the requirements identified throughout the SRD.

Q177. Annex A, section 3.3 # 9 states that the contractor must have the necessary security clearance (Controlled Goods & ITAR) to handle the GFE (and possibly contractor supplied) electronic equipment, yet in Section 6.1 of the RFP, it states "There is no security requirement associated with this bid solicitation."

Can Canada please confirm which case is true and amend the RFP accordingly?

A177. Annex A – SOW, para. 3.3 9) is deleted in its entirety and replaced with the following:

The Contractor will use GFE, some of which are goods are Controlled Goods. The Contractor will also use a number of systems which have International Traffic in Regulations (ITAR) and other security constraints. The Contractor must have the necessary clearance and screening to handle goods with controlled status.

Q178. Appendix 1, MRB-010 discussed the desirable requirements that are throughout SRD. Will these desirable requirements be taken into account during the evaluation of the bid?

A178. The only requirements to be taken into account during the bid evaluation are those specified in Annex M – Bid Evaluation Matrices.

Q179. From Appendix 1, MRB-015. Will a drop test similar to the ISO 6185-3 be required on the 1st MRB during Sea-Trials? And if so will it be to the standard of 2m or to the requirement of 3m?

A179. A drop test must be carried out to the required drop of 3m as stated in MRB-015. ISO 6185-3 has not been specified in the RFP.

Q180. Appendix 1, MRB-021 states operations from -40C to +48C. Will Canada consider changing the operation temperatures to an achievable requirement (similar to other RCN vessels)? Lloyd's Register identifies -29C as a requirement for Arctic Operations.

A180. Canada will not change this requirement.

Q181. From Appendix 1, MRB-030. Is Canada expecting the MRB to be able to operate at all speeds and in all load conditions with one or more dive doors removed? Or is this statement referring to diving operations?

A181. Canada expects the MRB to be able to operate at all speeds and in all load conditions with one or more dive doors removed.

Q182. Can Canada give direction on what “recognized marine regulatory body” certifies small vessel navigation systems?

A182. See Answer 141.

Q183. Appendix 1, MRB-048 & MRB-050 are requesting different “operational time”. Can Canada clarify?

A183. These requirements do not conflict.

Q184. Appendix 1, MRB-063 is asking that the MRB meet the LSA code. It should be noted that the maximum length of rescue boats under Chapter V is 8.5m. Furthermore, this standard is intended for strictly rescue craft and is not intended for heavy service multi-function vessels such as the MRB.

Also, having what items of the LSA code decided during the design phase will cause different bidders to interpret what may be required during the bidding, drastically changing pricing.

As per Q175 above, we would ask that Canada consider the same format:

- Hull & Structure to Class Society
- Outfitting to Transport Canada TP1332
- Stability to ISO (as called out in TP1332)

This will allow for bidders to price boats built to the same standard, and ensure Canada is getting boats built to specific, relevant standards that the Class Society can accurately inspect and approve to.

A184. Canada is aware that the application of LSA Code Chapter V applies to vessels with a maximum length of 8.5m. However, Canada will exempt itself from the 8.5m length restriction. See MRB-063.

The MRB shall comply with all of the Codes and regulations as specified in the SRD.

Q185. Appendix 1, MRB-103 references 40 knots at 80% throttle. This is a requirement in the design of larger vessels (Maximum Continuous Rating) and is not practical or relevant to small high-speed vessels. Can Canada clarify its performance criteria?

What is the required speed at full load (SS1) (assuming these would be sprint speeds as sustained speeds are defined in MRB-104)?

What is the required speed at light load (SS1)?

A185. Canada is not referring to Maximum Continuous Rating. See response to Question 19. The speed requirements that the Contractor will be responsible for are specified in the SRD.

Q186. If Appendix 1, MRB-104 states that the MRB must sustain speeds of 35 knots in SS1, fully loaded, shouldn't MRB-105 be amended to have an endurance of not less than 150 nautical miles at 35 knots in the fully loaded condition in SS1?

A186. MRB-104 is correctly stated in the RFP. No amendment necessary.

Q187. Appendix 1, MRB-159 & MRB-237 are looking for the air intakes to prevent water ingress during the boat being capsized. To prevent water ingress during the capsized position there would have to be an automatic air shut-off system which will be costly, expensive and complicated as the MRB will have two large engines and require large intakes unlike small LSA rescue boats with single smaller engines and therefore smaller intakes. Furthermore, it was clarified that Canada is not looking for a self-righting mechanism on the MRB.

Will Canada delete the requirement for the design and build of the engine intakes to prevent water from entering when capsized?

A187. Canada will not delete this requirement.

Q188. Can Canada confirm that the engine kill-switch is the lanyard style kill-switch that is positioned at the operator position and attached to the coxswain (see MRB-524)?

A188. Confirmed.

Q189. From Appendix 1, MRB-194. Will Canada accept a set up with two equal sized fuel tanks (one tank per motor) which is common on this size and style of boat?

A189. Yes. However, Canada's preference is for a single tank.

Q190. From Appendix 1, MRB-188. If Canada will accept a twin fuel tank system, please confirm that Canada will accept two (2) fuel fills in a single, lockable fuel fill box (properly vented to TP1332) mounted on the centerline.

A190. Confirmed.

Q191. From Appendix 1, MRB-201. Can Canada provide some clarity to the operational requirement behind self-sealing and explosion proof tanks? It should be noted that the fuel tanks are located below deck and under the waterline, any penetration in the tank would mean a penetration in the hull and tank tray, creating a larger problem than leaking fuel.

Self-sealing tanks will add unnecessary weight, cost and complications in inspections and maintenance.

A191. See Answer 145.

Q192. Appendix 1, MRB-275 & MRB-276 refer to the storage of the NBP kit – is it envisaged to have these items secured on the deck or in a separate storage compartment? If it is a separate storage compartment, will Canada provide sizes for the equipment?

A192. See Answer 37.

Q193. From Appendix 1, MRB-295. Is Canada requesting that the engines be mounted at the stern and will not allow mid-ship engines with jack-shafts back to the stern-drive units?

A193. See Answer 148.

Q194. From Appendix 1, MRB-304 & MRB-305. Can Canada give the specifics of the boarding pole base plate? Is this item GFE or contractor supplied?

A194. The boarding pole base plate is GFE. General details of the base plate:

Stainless steel 316 plate

Dimensions: 180 mm x 180 mm x 6 mm (7"x7"x1/4")

Fixing holes: 10 mm dia. (3/8")

Gross weight: 3 kg (6 lbs approx.)

Further details will be provided after Contract Award.

Q195. Please confirm that Appendix 1, MRB-481 is considering that the batteries are at a full charge and that the heating system in MRB-027 is plugged into ships' power.

A195. Confirmed.

Q196. Appendix 1, MRB-532 states that there are to be two displays. Are these displays independent of each other or duplicates displaying the same information?

A196. Displays must be independent of each other but capable of displaying identical information if chosen by the operators.

Q197. From Appendix 1, MRB-617. Please confirm if a computer is to be supplied/provided with the Communication System by the awardee of the contract?

A197. Computer is to be supplied by the Contractor.

Q198. Would the end user prefer an EO/IR sensor that is qualified to military standards or is a commercial EO/IR sensor acceptable? If qualification to MIL-STDs is desirable, please specify the necessary environmental requirements. Example: EMI, Humidity, Storage

temperature, Temperature Shock, Shock, Salt Fog, Waterproofness, Immersion, Icing etc.

A198. The required EO/IR camera performance is specified in the SRD.

Q199. Would aluminum hulls be acceptable for MULTI ROLE BOAT (MRB) SYSTEM (W8472-155557/C), or are fiberglass the only acceptable hulls?

A199. Canada has not mandated aluminum or fiberglass. Aluminum hulls may be accepted conditional upon meeting the performance requirements specified in the RFP.

Q200. MRB – 074 & 657. Can the Authority provide details of the cradle mounting points that the cradle must attach to on the ships deck or is the supplier to specify welded cradle mounting points, in which case can the authority please supply details of the deck strong points?

A200. The Contractor is responsible for determining the connection details. Halifax-class details will be provided after Contract Award.

Q201. MRB-063 - Can the Authority confirm that it requires SOLAS approved equipment, for example the SOLAS engine and SOLAS approved lifting points as part of the LSA code?

A201. If parts of SOLAS requirements are called in other standards referenced in the SRD then the applicable parts of SOLAS must be applied unless specifically exempt by the SRD or other RFP documentation.

If there are LSA Code requirements which conflict with other MRB requirements, Bidders are invited to specifically identify the individual compromises for further explanation and consideration.

Q202. MRB-160 - Can the authority confirm if the fire hose shall be aimed directly at an air intake during acceptance and the volume and pressure of the water?

A202. The fire hose flow will be directed at the air intake with flow rate of 360 liters per min and a pressure of 862 kPa.

Q203. MRB-181 - Can the authority confirm the definition of entire bilge? Will small volumes of water below the level of any strum box be acceptable?

A203. See MRB-183. The entire bilge is the total volume between the inner surface of the outer hull and the Deck.

Yes it is acceptable to have a small volume of water within a strum box.

Q204. MRB-246 - Can the authority provide the definition of "damaging the hull" and state the number of events that are expected between on shore maintenance periods? Can the authority also please provide further information on how this requirement shall be tested?

A204. A "damaged hull", of any material, is one with permanent structural deformation; greater than 5 cm in diameter, 5mm and greater in depth, exposes the fibres past the waterproof surface, or hull breach(es) of any size.

MRB sea trials must include beaching and simulates collisions, within the defined parameters. The Contractor must propose the location to the agreement of Canada where the Contractor will carryout said trials.

Q205. MRB-248 - Can the authority please define "impact" and "structural damage"? Size and shape of object of impact, is it a fixed item, a floating item or falling item. Is this item to impact any part of the vessel or just the sides above the waterline?

A205. An impact is any contact to the MRB hull, stern bumper, or collar.

An impact to the MRB could be cause by any fixed or floating object, above or below the waterline and below the top of the collar.

Definition of damage to the hull see answer 204.

An impact for this requirement will be defined as 5 knot collision with a solid flat Jetty with any part of the hull.

Q206. MRB-286 - Can the authority please define "impact" and "damage"? Size and shape of object of impact, is it a fixed item, a floating item or falling item. Is this item to impact any part of the bumper or just the sides above the water level?

A206. See answers 204 and 205.

An impact for this requirement will be defined as 5 knot collision with a solid flat Jetty with any part of the bumper.

Q207. MRB-299 - Can the authority confirm that the reconfigurable area is to include shock mitigating seating in a folded condition or the area is to exclude all seating?

A207. See MRB 297 for the definition of reconfigurable deck area.

The reconfigurable deck area must include the Free Deck Area.

The Free Deck Area must not include seats but the seats will be onboard in any seat configuration.

The text from MRB 298 is deleted and replaced with the following:

The MRB re-configurable area must be configurable to embarked 10 personnel in shock mitigating seats.

The text from MRB- 299 is deleted and replaced with the following:

The MRB Free Deck Area must be:

- a) inside the re-configurable area;
- b) rectangular;
- c) 2.15 m transverse, minimum;
- d) 1.8 m longitudinal, minimum;
- e) a single continuous deck plane;
- f) unobstructed by the shock mitigating seating;
- g) located between the dive doors; and
- h) unobstructed by permanent fixed equipment;

while all 10 embarked personnel shock mitigating seats are onboard the MRB.

Q208. MRB-309 & 322 - Can the authority please confirm the requirement for both anti-skid finish and anti-skid matting?

A208. The text from MRB-309 is deleted and replaced with the following:

The MRB must have an anti-skid matting, walkway with a minimum width of 0.2 m, running fore and aft and to port and starboard of the control console.

Q209. MRB-351 & 134 - Can the authority confirm if this requirement shall be taken to mean that the guidance provided in "ABCD-TR-08-01 V1.0 High Speed Craft Human Factors Engineering Design Guide" should be used as requirements?

A209. ABCD-TR-08-01 V1.0 High Speed Craft Human Factors Engineering Design Guide" should be used as design guidance; it is intended to amplify and clarify appropriate design solutions regarding human factors and human machine interface engineering. Sections A-F in Part 2 hold particular interest for Canada.

The text from MRB-351 is deleted and replaced with the following:

The MRB console instrumentation must be at an angle that optimizes console control operability whilst maximizing field of view when the user is in either a standing or sitting position.

The MRB console instrumentation should be at an angle that optimizes console control operability whilst maximizing field of view when the user is in either a standing or sitting position in accordance with "ABCD-TR-08-01 V1.0 High Speed Craft Human Factors Engineering Design Guide Section B and F".

Q210. MRB-408 & 409 - Can the authority please provide any requirements relating to limits on lifting by a single person that the RCN applies?

A210. MRB-408 and 409 are not intended to address lifting the shock seats, but rather the slight position adjustments required to correctly lock a seat in place and also release it.

The text from MRB-408 is deleted and replaced with the following:

Each MRB shock mitigating seat must be locked in place in less than one minute by one person without requiring the use of tools.

The text from MRB-409 is deleted and replaced with the following:

Each MRB shock mitigating seat must be released in less than one minute by one person without requiring the use of tools.

Q211. MRB-616 & 617 - Can the authority confirm the operating requirements for the computer to run any GFE equipment?

A211. The operating requirements for the computer are stated in MRB-616 and 617. As an example, the Bidder may consider a Panasonic TOUGHBOOK 20, or a ruggedized laptop with equivalent specifications, as sufficient for this requirement.

Q212. MRB-617 - Can the authority confirm if an Ethernet system is required with network switch?

A212. An Ethernet network switch is needed in some configurations. The configuration is to be selected by the Contractor and finalized during the design phase.

Q213. MRB-645 - Can the authority confirm which formats the GFE radios receive for the purposes of specifying the camera system?

A213. The GFE radio provides an IP link and will support a variety of digital formats, including raw feeds.

Q214. MRB-665 - Can the authority please provide the Grade of the equipment as defined in Section 3.01 of D-03-003-007/SG-000?

A214. See answer 216.

Q215. MRB-665 - Can the authority please provide the equipment position as described in the list of figures given in Section 4.04 of D-03-003-007/SG-000? This position couple with the Grade shall determine the base acceleration values.

A215. See answer 216.

Q216. MRB-665 - Can the authority please provide all details as listed in Section 9.01 of D-03-003-007/SG-000?

A216. 9.01a: The required Shock Proof Grade 1
9.01b: Test Type 2A is required, CFTO D-03-003-007/SG-000 Section 4.04
9.01c: Equipment orientation for the shock test is longitudinal axis aligned with longitudinal parent ship axis. MRB bow facing same direction as parent ship bow.

9.01d: First article only

9.01e: For extent of dismantling see SOW 6.3.1 (17

9.01f: All MRB equipment will be off and the MRB will be secured in its cradle on the deck, SOW 3.4.1 (e)

For ship performance criteria see below.

Shock Grade - Grade A

Equipment Type - "Principle Unit"

Shock test acceptance criteria – In accordance with SOW 6.3.1; the MRB must perform the following life raft marshalling functions after a shock event:

- 1) The MRB must maneuver ahead and astern in a seaway to marshal life rafts;
- 2) The MRB must tow a 20 person life raft when loaded with the life raft's full complement of persons and equipment, at 2 knots;
- 3) The MRB must not be punctured by the cradle;
- 4) The MRB must have a functional marine VHF radio;
- 5) The MRB must have a functional hand held search light;
- 6) The MRB must have a functional strobe light;
- 7) The MRB must recharge all engine starting, radio, and search light batteries;
- 8) The MRB must have a functional mechanical means for bailing;
- 9) The MRB must have a functional fire extinguisher; and
- 10) The MRB must have a functional integrated marine compass.

Mounting Orientation – "restricted"

Mounting Location - the cradle is to be deck mounted.

The text from MRB-665 is deleted and replaced with the following:

The MRB must withstand a heavy shock test as defined within "D-03-003-007/SG-000 - Specification for Design and Test Criteria for Shock Resistant Equipment in Naval Ships", **or** "MIL-DTL-901E - Shock Tests HI (High Impact) Shipboard Machinery, Equipment and Systems, Requirements", whilst the boat is secured within its cradle.

Q217. MRB-665 - Can the authority provide further information relating to the shock requirements under MIL-DTL-901E:

Shock Grade - Assumed Grade A?

Equipment Type - "Principle Unit"?

Shock test acceptance criteria?

Mounting Orientation - assumed "restricted"?

Mounting Location - is the cradle to be "Deck" or "hull" Mounted as per standard definitions regarding Bulkhead positions?"

A217. See answer 216.

Q218. Has the Crown secured US Government sponsorship for the shock tests of the MRB and cradle at the US test facility? It is our understanding that the materials (explosives)

required for shock testing must be requested of the US Government well in advance of planned activities. Following contract award, does the Crown have a notional test schedule that considers the process necessary to conduct testing in Virginia?

A218. It is the responsibility of the Contractor to arrange the logistics of the shock testing. Following Contract Award, the schedule for shock testing will be dependent on first article readiness.

Q219. Section 7.25.2 (e) references the boats being secured for transport. Is it envisaged by Canada for the contractor to deliver the boats on the contractor's provided cradle or trailer and that the boat will be removed from that trailer or cradle upon delivery? If so, how will the boats be stored, in the water or on land, and if on land, who's responsibility is it to provide the cradle, boat stands, etc. for storing the boat on land?

A219. It is envisaged the 24 MRB will be delivered on 24 cradles, and 6 MRB will be delivered on 6 disposable cradles. All MRB and cradles regardless of delivery means and handling must be secured for long term dry storage and secured for additional transport and handling if necessary. Refer to Annex A, Statement of Work (SOW), Section 6.7, for details on how the MRB and cradles must be delivered to Canada.

Annex A, para. 6.7.2 is amended as follows:

Insert:

(7) The Contractor is responsible for handling and offloading MRBs at each of the identified delivery locations, for final acceptance.

(8) The Contractor must ensure that the MRBs remain winterized and protected for long-term storage post Final Acceptance.

Q220. Annex A, section 2.1.7 Training Plan (12) states that the contractor must ensure that there is access to an MRB. Is it expected for the contractor to use an MRB that is not yet signed off (therefore property of the contractor) to perform the training or will the training take place on MRBs already delivered and accepted by Canada?

A220. Training will be conducted on MRBs that are property of the Canada after delivery.

Q221. Who will be responsible for damage to the boat if damage occurs during training outlined in section 2.1.7?

A221. The Contractor will be responsible for damage to any MRB and cradle before final delivery and acceptance.

Q222. Annex A, section 3.3 # 6 & 7 state that the contractor is responsible for obtaining any required information from the OEMs of the GFE equipment. Will Canada ensure that the suppliers / OEMs of the GFE equipment will work with the successful bidder?

A222. As stated in Section 3.3, it is the responsibility of the Contractor to have in place any necessary agreements to work with any OEM(s) GFE information and property.

Q223. Annex A, section 4.2 3) states that the contractor must install, integrate and commission all GFE, while this is normal work completed with boats built for Canada, we will need to know specifics of the GFE, including make and model in order to receive pricing from the OEMs to include in our bid price. Can Canada please provide details of the GFE equipment and ensure that the OEMs will work with all bidders?

A223. The Contractor is not responsible for purchasing the GFE. The equipment cost of the GFE is not to be included in the bid price, notwithstanding the GFE integration effort. Details of the GFE will be provided after Contract Award. See answer 222 and Section 3.3 6 & 7 in SOW.

Q224. Please Clarify that in Appendix 1, MRB-421 Canada is looking for two aft tow posts (one on either side) with a contractor supplied bridle to act as a single tow point?

A224. Canada is looking for two tow points at or near the stern. These tow points will be used to secure a Contractor supplied bridle. The tow points are not required to be tow posts.

Q225. From Appendix 1, MRB-617 part d. Are there any details of the required connection to the MRB multi-channel intercom system?

A225. The Intercom system will be provided as GFE. Details to be provided during the design phase.

Q226. From Appendix 1, MRB-021. What are the critical systems that should be considered? Should we assume the Propulsion, Main Engine, Steering gear but not the Navigation system and related equipment such as GPS, Compass, Radios, Multi-functional display etc?

A226. The text from MRB-021 is deleted and replaced with the following:

The MRB systems must operate continuously in ambient air temperatures from -40 degrees Celsius to +48 degrees Celsius.

Q227. From Appendix 1, MRB-618. Can you confirm that the intention is to create a cross-band repeater?

- e) Remote control radios wired and wirelessly; What do you want to control?
- g) External rotary dial unit with dual headset outputs; What is the "rotary dial unit"? Can you please provide additional information on this requirement?

A227. The control is for basic pre-set network parameters.

The rotary dial unit is a communications selector box that allows you to select network pre-sets. The Intercom system will be provided as GFE. Details to be provided during the design phase.

The text from MRB-618 is deleted and replaced with the following:

The MRB must have a ruggedized multi-channel intercom system to provide:

- a. Simultaneous operation of both Multiband and HF Radios;

- b. User selection of desired radio via station;
- c. User intercommunications via the intercom function;
- d. Cross band voice and data between radios;
- e. Remote control radios wired and wirelessly;
- f. Integration with the external loud hailer;
- g. External rotary dial unit with dual headset outputs, and;
- h. Interface with ruggedized computer via RJ-45 or DB-9;

The ruggedized multi-channel intercom system will be GFE.

Q228. Annex A, section 6.3.1 outlines the First Article Shock Testing. We are not aware of any Boat / Cradle combinations that have been designed and tested to the reference standards (D-03-003-007/SG-000 and MIL-DTL-901E) and after talking with the engineers at Hi-Test Labs, it is clear that this would be a first for them as well. The following questions all refer to the shock testing requirements:

- a) Which grade will the Boat / Cradle be tested to?
- b) in regards to section 6.3.1.2, can the results of a computer analysis of the design form part of the evidence?
- c) section 6.3.1.4 states that the selection equipment that must survive the tests is to be determined during the PDP, however the bidder has to bid with a price based on designing the boat to withstand the shocks required and interpretation of what should survive will vary from bidder to bidder and can dramatically affect the cost put into the bid and can create an unfair advantage based on interpretations. Can Canada specify what systems and structures must survive so all bidders will be able to price on a clear playing field?
- d) sections 6.3.1.11, 6.3.1.12 & 6.3.1.13 refer to the unique and unknown handling and on-site costs of the test. While it makes sense that the contractor take responsibility for these activities, can Canada confirm that the cost of this will be above the bid price as part of the testing, as it will be near impossible in the bid period to have a complete plan with Hi-Test to fully account for these items?
- e) In regard to 6.1.3.16 & 6.1.3.17, is it envisaged to have the boat fully equipped and functional during the shock-test? If so, who is responsible for the cost for the equipment that is not required to survive the shock-test?
- f) Even if the boat and critical equipment (which should be specified as per c) above survive the shock tests and can operate critical missions (which need to be clearly defined), there may be damage to the boat's structure and equipment that can affect the performance later in its operational life.

Is Canada prepared to have one vessel that may have a shorter operational life and/or future maintenance repair costs abnormal to the rest of the MRB fleet?

- A228. a) See answer 216.
- b) The evidence must in accordance with the specified Shock Standards. Note; computer analysis is not sufficient by itself and physical shock testing will still be required.
- c) See answer 216.

- d) The cost of SOW 6.3.1 11), 12), and 13) are to be included in the bid price.
- e) See answers 139 & 216.
- f) See answer 139.

Q229. Appendix 1, MRB-319 requires high-speed operation with the dive-door removed. This is essentially asking that the boat operate with a missing section of the collar / bulwark. How does Canada envisage the aft part of the collar not catching water in a high-speed turn through its own wake (and sea-state)?

A229. The text from MRB-319 is deleted and replaced with the following:

In SS1 with dive doors removed, the MRB collar must not direct water inboard over the MRB deck.

Q230. Appendix 1, MRB-462 is asking for a gelcoat finish on GRP surfaces but MRB-468 is asking for a matte finish. Please clarify.

A230. MRB-462 & MRB-468 are not mutually exclusive. Gelcoats are to be made to have a matte finish through either the addition of additives or paint.

Q231. From Appendix 1, MRB-568. Can DND confirm that the ENC's will be provided as GFE?

A231. Confirmed.

Q232. From Appendix 1, MRB-607. What is "dual connection intercom"? Can you please elaborate?

A232. See answer 227.

Each crew station unit (intercom) will have two connections for two crew members. The intercom system is to be provided as GFE.

Q233. Please confirm you want a HD day camera and not a HD IR camera? This has a major impact on the price.

A233. HD visible spectrum camera. Minimum SD IR camera.

Q234. SRD MRB-119 & 122 - The requirement references an "Emergency Loading" condition which is defined in the Glossary but not referenced anywhere else in the SRD. Are there any other performance requirements expected for this load condition?

A234. Yes, in requirements where "any loading condition" or "all loading conditions" are used emergency loading condition applies.

Q235. SRD MRB-618, item e - Please clarify what is meant by "Remote control radios... wirelessly"?

A235. See answer 227.

Q236. SRD MRB-021 - Is the intention of "operate continuously" that the MRB will be deployed/conducting missions in -40 degree Celcius conditions? And/Or is the intention

that the MRB critical systems can withstand -40 degree exposure and then be activated in -40 degree conditions (e.g. the engines can be started from -40 degrees)?

A236. The intention is that the MRB will be deployed and operate at -40 degrees Celcius.

See answer 226.

Q237. MRB-094 - The requirement conflicts with the LSA code requirements outline in MRB-063 and may further conflict with MRB-072 and 073. Can the authority confirm which requirement shall take precedence over the others or if the most onerous requirement should be taken?

A237. Canada does not interpret there to be conflicts but rather amplifications of safety factors.

If there are perceived requirement conflicts, Bidders are invited to specifically identify the individual conflicts for further explanation and consideration.

Q238. MRB-374 - Can the authority please provide additional information relating to the operational reason for this requirement? And can the authority confirm the rate of turn that this shall be tested at?

A238. See Answer 36 for the definition of High Speed.

The text from MRB-374 is deleted and replaced with the following:

The MRB must complete an abrupt heading change of 45 degrees to port then an abrupt heading change of 45 degrees to starboard without collar submersion starting from the centre helm position, at high speed in SS1 and full load condition.

Q239. Annex A, section 3.4.1 3c) mentions that the cradle needs to accommodate a variety of hull forms, which will require movable pieces, complicating the design. In order to complete a preliminary design and pricing for the bid can Canada provide the size of hull forms that will be placed into the MRB cradle?

A239. Length range (m): 4.2 to 9.2

Beam range (m): 1.52 to 3.5

Weight range (kg): 327 to MRB fully loaded

Specific hull detail will only be provided after Contract Award.

Q240. From Appendix 1, MRB-374. Can Canada give an operational requirement to this?

A240. See A238.

Q241. As discussed in appendix #1 MRB-005 could you supply more detailed information pertaining to the Defense Procurement Strategy (DPS) requirement for Canadian content in the contract and how Canadian content is determined?

A241. As indicated in para. 1.2.2 of the RFP, this procurement falls under the small vessel construction component of the National Shipbuilding Strategy (NSS), whereby the requirement will be competed to Canadian Industry.

Q242. SRD MRB-414 - Q/A 109 - The answer to Question 109 indicates that the seat attachment hardware is flush with the deck. Since recessed seat attachments would be subject to water collecting and freezing; does this mean the seat attachments should be flush with the top surface of the shock absorbing deck matting required in MRB-322?

A242. Without insight into the Contractor selected anti-skid matting, flush should be measured relative to the deck. The intent of "flush with the deck" is to avoid tripping and slipping hazards. MRB systems and equipment must remain functional below the freezing point, see MRB-021 and MRB-022.

The text from MRB-414 is deleted and replaced with the following:

The MRB shock mitigating seat deck mounting hardware top surface must be flush with the deck.

Q243. SRD MRB-665 - With regard to the following unanswered question previously submitted, **(What is the deck simulator response frequency required for the heavy weight shock test outlined in MIL-DTL-901E ?)**: in the absence of Canada providing a known deck frequency, can we assume 25 HZ as suggested in section 3.1.6.5 of the MIL-DTL-901E publication dated 20 June 2017?

A243. Halifax class data will be confirmed after Contract Award.

Q244. SRD MRB-026 - Because certain OEM specifications do not meet the ambient temperature conditions specified, can the authority confirm that the intention of this requirement is that the MRB onboard heating systems are essentially required to meet the specified ambient conditions requirements?

A244. Confirmed; unless the Contractor provides an alternate solution which meets our operational temperature range, See MRB-021.

Q245. SRD MRB-143 - How will this requirement be verified/qualified? Would a drawing showing the pilot's line of sight over the bow based on the boat's trim angle while planning be sufficient to be compliant? If so, what height off the deck should be used for the pilot's sight line?

A245. A drawing will be acceptable during the design phases, however dynamic planning trim and freeboard will need to be measured to ensure the as-built MRB performs as the design drawings suggest. See also the amended text for MRB-098 and A89.

Q246. SRD MRB-665 - Referencing MIL-DTL-901E, pertaining to Shock Response Frequency:

a) According to section 3.1.6.5.1.1 - Can the authority confirm a SRF of 25 HZ will be targeted for the cradle shock evaluation?

b) According to A.2.4.1 - Can the authority confirm an initial velocity of 120 in/sec will be used for SRF calculations?

c) According to 6.6.12 - Can the authority confirm an Standard Floating Shock Platform (SFSP) or equivalent will be used for the cradle shock evaluation?

d) According to 3.1.8.3 (Table XIII) - Can the authority confirm that 60 lbs of HBX-1 or equivalent at a depth of 24 ft will be used for the cradle shock evaluation? And that a weight specific energy density of 3850 kJ/kg can be assumed for HBX-1?

A246. a) See A243.

b) This SRF calculation is not consistent with barge testing. The Bidder must confirm details with their proposed shock test facility.

c) Confirmed; SFSP will be used for MRB and cradle shock test.

d) The Bidder must confirm details with their proposed shock test facility.

See A216. for more shock related details

Q247. SRD MRB-675-676 and Q137, 138 - What is the objective of these shock load definitions in addition to MRB-665? Are these representative of typical load cases whereas MRB-665 captures extreme load cases?

A247. The loads and accelerations defined in 675 and 676 address transportation requirements. Answers to Q137. and Q138. remain applicable and are independent of MRB-665.

Q248. For the PMP to be submitted with the bid, please confirm that only those sections subject to evaluation (i.e. Table 10) need be submitted. i.e. the remaining requirements of DID-M-001 are required only after Contract Award. Please also confirm that this principle applies for the Master Schedule and QA Plan.

A248. In reference to Bid Evaluation Matrix Table 10, Table 11 and Table 12.

Only the sections listed in the tables will be given points IAW with the procedure outlined in Annex M.

2. The following requirements have been added to the list to be included in Appendix 1, System Requirements Document, first identified in amendment 005:

1. The MRB stern drives must raise above keel line.
2. The MRB Free Deck Area must not include the top of the engine compartment.
3. The MRB Shock Mitigating Seats must not be attached to the top of the engine compartment.

4. The MRB sides (i.e. collar, collar supports, bulwarks, etc.) must have a padded top, if an inflatable collar is not selected.
 5. The MRB anti-skid matting must shed water.
 6. The MRB anti-skid matting must adhere to the MRB.
 7. The MRB collar must not contact the water surface when the MRB is at plane, proceeding in a straight line at high speed, during SS1.
 8. The MRB collar must not contact the water surface when the MRB is at rest, during SS1.
 9. The MRB stern tow points must not obstruct equipment storage or boarding party operation.
 - 10. If tandem shock mitigating seats are selected, the MRB shock mitigating seat must be adjusted, removed, or installed by no more than 2 people.**
 - 11. If a single occupant shock mitigating seat is selected, the MRB shock mitigating seat must be adjusted, removed, or installed by no more than 1 person.**
 - 12. The MRB anti-skid matting must not interfere with the operation of shock mitigating seat deck mounting hardware, the installation, removal, or sliding of the shock mitigating seating. If the shock mitigating seating deck mounting hardware is recessed, the MRB flush mounted hardware must gravity drain in the upright and static condition.**
 - 13. The MRB must complete a U-turn (heading change of 180 degrees) within a 2 boat length diameter, where the MRB enters the manoeuvre at 100% power in SS1.**
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3. MRB-430 is amended to add an (s) to tow point.
 4. A53. is amended as follows:

The incremental milestone percentages are based on the sub-total amount in Subtotal A column C.
 5. The text from MRB-637 is deleted and replaced with the following:

The MRB EO/IR camera system must operate continuously, without degradation in detection, in ambient air temperatures from -25 degree Celsius to +48 degree Celsius.
 6. The text from MRB-167 is deleted and replaced with the following:

The MRB's diesel engines must comply with exhaust emission regulations of IMO Tier II NOx emission standards (MARPOL Annex VI and NOx Technical Code 2008).
 7. The text from MRB-461 is deleted and replaced with the following:

All MRB painted parts and components must be coloured Grey 16480 in accordance with SAE AMS-STD-595 Colors Used in Government Procurement.
 8. The text from MRB-304 is deleted and replaced with the following:

The MRB must have a boarding pole base plate permanently attached, on the centerline, within the Free Deck Area, recessed into the deck, and within 1 metre of the MRB centre of floatation or centre of buoyancy.

9. A232 is amended to include the following text:

Each crew station unit (intercom) will have two connections for two crew members. The intercom system is to be provided as GFE.

10. The text from MRB-098 is deleted in its entirety and replaced with the following:

The MRB must be designed and constructed to accommodate all personnel between and including the 5th percentile adult female and the 95th percentile adult male, with anthropometrics as follows:

	5 th % FEMALE	95 th % MALE
Anthropometry	Unit mm	
Acromial Height Sitting	581	656
Acromial Height	1242	1577
Arm Length	523	706
Bideltoid Breadth	443	481
Buttock Knee Length	550	666
Buttock Popliteal Length	441	550
Crotch Height	664	859
Elbow Rest Height Sitting	266	238
Eye Height Sitting	715	867
Eye Height Standing	1382	1781
Foot Length	219	290
Hip Breadth Sitting	403	371
Hip Breadth	365	365
Knee Height Sitting	448	578
Outer Leg Length	904	1160

Popliteal Height	336	465
Sitting Height	833	980
Span	1472	1975
Stature	1496	1889
Thigh Clearance	165	173
Thumbtip Reach extended	790	998
Thumbtip Reach	658	860
Weight	66	81
Wrist Wall Length	552	723

Definitions and figures of the above anthropometry is publically available online at:
http://cradpdf.drdc-rddc.gc.ca/PDFS/unc224/p803174_A1b.pdf

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME