



## RETURN BIDS TO:

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Bid Receiving - PWGSC / Réception des soumissions  
- TPSGC

11 Laurier St. / 11, rue Laurier

Place du Portage, Phase III

Core 0B2 / Noyau 0B2

Gatineau

Quebec

K1A 0S5

Bid Fax: (819) 997-9776

## SOLICITATION AMENDMENT MODIFICATION DE L'INVITATION

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

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

### Comments - Commentaires

### Vendor/Firm Name and Address

Raison sociale et adresse du  
fournisseur/de l'entrepreneur

### Issuing Office - Bureau de distribution

Marine Chartering Services Directorate/Direction des  
services d'affrètements maritime

11 Laurier St./ 11, rue Laurier

Place du Portage, Phase III, 6C2

Gatineau

Quebec

K1A 0S5

<b>Title - Sujet</b> Light Icebreaker	
<b>Solicitation No. - N° de l'invitation</b> F7013-180034/C	<b>Amendment No. - N° modif.</b> 004
<b>Client Reference No. - N° de référence du client</b> F7013-180034	<b>Date</b> 2020-05-04
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$MB-007-27711	
<b>File No. - N° de dossier</b> 007mb.F7013-180034	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2020-06-16</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Martin, Erik	<b>Buyer Id - Id de l'acheteur</b> 007mb
<b>Telephone No. - N° de téléphone</b> (613) 296-7863 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

Instructions: See Herein

Instructions: Voir aux présentes

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

Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

This Amendment No.004 is raised to (1) make modifications to the Request for Proposal and (2) answer questions from the industry.

### **Modifications to the RFP**

Modification #1 – Article 2.7 (a) is deleted in its entirety and replaced with the following:

#### **2.7 Bidders' Conference**

- (a) Due to various complications caused by the COVID-19 pandemic, Canada has decided to cancel the Bidders' teleconference in its entirety. Please note that in accordance with article 2.3, Canada invites Bidders to provide any enquiry it may have regarding this Request for Proposal.

Modification #2 – Article 4.1 (b) is deleted in its entirety and replaced with the following:

#### **4.1 Evaluation Procedures**

- (b) An evaluation team composed of representatives of the Client and PWGSC will evaluate the bids on behalf of Canada. Canada may hire any independent consultant, or use any Government resources, to evaluate any bid including the Vessel Confirmation Assessments (Phase 1 and 2). Not all members of the evaluation team will necessarily participate in all aspects of the evaluation.

Modification #3 - Article 4.3 (c) is deleted in its entirety and replaced with the following:

#### **4.3 Vessel Bid Confirmation Assessment Phase 1 - Inspections and Dock Trials**

- (c) Canada will pay its own travel and salary costs associated with any Vessel Bid Confirmation Assessment Phase 1 Inspections and Dock Trials. Despite the written bid, if the Bidder is unable to demonstrate that the proposed vessel meets the applicable mandatory requirements of this bid solicitation within the specified amount of time allotted, the bid will be declared non-responsive. Canada may, as a result of the Vessel Bid Confirmation Assessment Phase 1 Inspections and Dock Trials, reduce the score of the Bidder on any rated requirement, if the Vessel Bid Confirmation Assessment Phase 1 Inspections and Dock Trials indicates that the score provided to the Bidder on the basis of its written bid is not validated by the Vessel Bid Confirmation Assessment Phase 1 Inspections and Dock Trials. The Bidder's score will not be increased as a result of any demonstration.

Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

Modification #4 – Article 4.6 (d) is deleted in its entirety and replaced with the following:

#### **4.6 Vessel Bid Confirmation Assessment Phase 2 - Inspections, Dock and Sea Trials**

- (d) Canada will pay its own travel and salary costs associated with any Vessel Bid Confirmation Assessment Phase 2 Inspections and Dock Trials. Despite the written bid, if the Bidder is unable to demonstrate that the proposed vessel meets the applicable mandatory requirements of this bid solicitation within the specified amount of time allotted, the bid will be declared non-responsive. Canada may, as a result of the Vessel Bid Confirmation Assessment Phase 2 Inspections and Dock Trials, reduce the score of the Bidder on any rated requirement, if the Vessel Bid Confirmation Assessment Phase 2 Inspections and Dock Trials indicates that the score provided to the Bidder on the basis of its written bid is not validated by the Vessel Bid Confirmation Assessment Phase 2 Inspections and Dock Trials. The Bidder's score will not be increased as a result of any demonstration. If the Bidder's score is reduced as a result of such Vessel Bid Confirmation Assessment Phase 2 Inspections and Dock Trials, Canada will reassess the ranking of all bidders. If, as per Canada's reassessment, the Top-Ranked Responsive Bid has changed then a new Vessel Bid Confirmation Assessment Phase 2 will be performed on the next Highest Responsive Combined Rating of Technical Merit and Price bid.

Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C	CCC No./N° CCC - FMS No./N° VME

Modification #5 MR-13A of Attachment 4.1 (Mandatory Requirements) is deleted in its entirety and replaced with the following:

**ATTACHMENT 4.1**

VESSEL TECHNICAL EVALUATION – MANDATORY CRITERIA			
		BIDDER'S RESPONSE	
ID #	MANDATORY REQUIREMENTS	ASSESSMENT METHODOLOGY	<div> <div>DEMONSTRATED COMPLIANCE (BIDDER TO INSERT DATA)</div> <div>SUBMITTED REFERENCE WITH PAGE AND PARAGRAPH NUMBER</div> </div>
MR-13A	The Bidder's Vessel must have an open water (World Meteorological Organization - Sea State 2 or less), maximum speed of no less than 10 knots with the vessel in deep departure load condition.	<p>The Bidder must provide one of the following documents in which the maximum speed of no less than 10 knots in Sea State 2 and in deep departure load condition is demonstrated:</p> <ol style="list-style-type: none"> <li>1. Full speed trial report; or</li> <li>2. Tank test report; or</li> <li>3. Computational Fluid Dynamics analysis.</li> </ol>	

Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C	CCC No./N° CCC - FMS No./N° VME

Modification #6 MR-14A of Attachment 4.1 (Mandatory Requirements) is deleted in its entirety and replaced with the following:

#### ATTACHMENT 4.1

VESSEL TECHNICAL EVALUATION – MANDATORY CRITERIA				
			BIDDER'S RESPONSE	
ID #	MANDATORY REQUIREMENTS	ASSESSMENT METHODOLOGY	DEMONSTRATED COMPLIANCE (BIDDER TO INSERT DATA)	SUBMITTED REFERENCE WITH PAGE AND PARAGRAPH NUMBER
MR-14A	<p>The Bidder's Vessel must have the fuel endurance required to break 0.6m of first year ice at 3 knots for a duration of no less than 15 days with a 10% reserve.</p> <p>The reserve is calculated as 10% of the total pumpable volume of fuel based on 95% fill level.</p>	<p>The Bidder must provide a calculation that demonstrates that the vessel has a minimum endurance of 15 days operation with a 10% reserve.</p> <p>This calculation must use the Original Equipment Manufacturer (OEM) provided fuel consumption related to breaking 0.6m of ice at 3 knots, including all additional loads identified in the vessel's Electrical Load Analysis in a winter transit scenario, with all tanks being 95% full and the unpumpable portion of the tanks being considered.</p>		

Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C	CCC No./N° CCC - FMS No./N° VME

Modification #7 MR-19A of Attachment 4.1 (Mandatory Requirements) is deleted in its entirety and replaced with the following:

#### ATTACHMENT 4.1

VESSEL TECHNICAL EVALUATION – MANDATORY CRITERIA				
			BIDDER'S RESPONSE	
ID #	MANDATORY REQUIREMENTS	ASSESSMENT METHODOLOGY	DEMONSTRATED COMPLIANCE (BIDDER TO INSERT DATA)	SUBMITTED REFERENCE WITH PAGE AND PARAGRAPH NUMBER
MR-19A	<p>The Bidder's Vessel must have space to fit a single Zodiac 738 rescue craft and allow for unrestricted launch and recovery from a supporting davit.</p> <p>Zodiac 738 drawing is attached at Table 5 of this attachment.</p>		<p>The Bidder must provide an as-fitted arrangement drawing that is annotated to include a Zodiac 738 in a location where it can be stored, launched and recovered readily and does not interfere with any other deck operations, including mooring, towing, anchoring and loading and unloading deck cargo.</p> <p>To demonstrate "unrestricted launch and recovery", the Bidder must demonstrate that no structure, object, fitting or unmovable equipment interfere with the outboard launching and inboard recovery of the Zodiac 738. In addition, the Bidder must</p>	

Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

VESSEL TECHNICAL EVALUATION – MANDATORY CRITERIA			
		BIDDER'S RESPONSE	
ID #	MANDATORY REQUIREMENTS	ASSESSMENT METHODOLOGY	DEMONSTRATED COMPLIANCE (BIDDER TO INSERT DATA) SUBMITTED REFERENCE WITH PAGE AND PARAGRAPH NUMBER
		demonstrate that there is a minimum sightline of 15 degrees ahead and astern from the Zodiac storage, launch and recovery position.	

Modification #8 MR-20A of Attachment 4.1 (Mandatory Requirements) is deleted in its entirety and replaced with the following:

ATTACHMENT 4.1

VESSEL TECHNICAL EVALUATION – MANDATORY CRITERIA			
		BIDDER'S RESPONSE	
ID #	MANDATORY REQUIREMENTS	ASSESSMENT METHODOLOGY	DEMONSTRATED COMPLIANCE (BIDDER TO INSERT DATA) SUBMITTED REFERENCE WITH PAGE AND PARAGRAPH NUMBER
MR-20A	INTENTIONALLY DELETED		

Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C	CCC No./N° CCC - FMS No./N° VME

Modification #9 MR-25A of Attachment 4.1 (Mandatory Requirements) is deleted in its entirety and replaced with the following:

**ATTACHMENT 4.1**

VESSEL TECHNICAL EVALUATION – MANDATORY CRITERIA			
		BIDDER'S RESPONSE	
ID #	MANDATORY REQUIREMENTS	ASSESSMENT METHODOLOGY	DEMONSTRATED COMPLIANCE (BIDDER TO INSERT DATA)
MR-25A	The Bidder's Vessel must be equipped with functional radio communications and navigation systems required as part of the international SOLAS convention.	The Bidder must provide the SOLAS radio and navigation equipment list which has been approved by Class or the Flag State and an attestation by the Bidder that all equipment are fully functional.	SUBMITTED REFERENCE WITH PAGE AND PARAGRAPH NUMBER



Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C	CCC No./N° CCC - FMS No./N° VME

Modification #10 MR-31A of Attachment 4.1 (Mandatory Requirements) is deleted in its entirety and replaced with the following:

#### ATTACHMENT 4.1

VESSEL TECHNICAL EVALUATION – MANDATORY CRITERIA				
			BIDDER'S RESPONSE	
ID #	MANDATORY REQUIREMENTS	ASSESSMENT METHODOLOGY	DEMONSTRATED COMPLIANCE (BIDDER TO INSERT DATA)	SUBMITTED REFERENCE WITH PAGE AND PARAGRAPH NUMBER
MR-31A	All of the Bidder's vessel potable water tanks must be treated with a coating that is National Sanitation Foundation (NSF)/American National Standards Institute (ANSI) Standard 61 compliant.	The Bidder must provide the specification sheet for the coating applied to all potable water tanks that demonstrates that it is certified to NSF/ANSI Standard 61 or an equivalent standard and an attestation that it was applied in accordance with Original Equipment Manufacturer's recommendations.  For equivalent standards, the Bidder must demonstrate in detail that the standard meets or exceeds the testing requirements outlined in NSF/ANSI 61.		

Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C	CCC No./N° CCC - FMS No./N° VME

Modification #11 MR-35A of Attachment 4.1 (Mandatory Requirements) is deleted in its entirety and replaced with the following:

#### ATTACHMENT 4.1

VESSEL TECHNICAL EVALUATION – MANDATORY CRITERIA			
		BIDDER'S RESPONSE	
ID #	MANDATORY REQUIREMENTS	ASSESSMENT METHODOLOGY	<div> <div>DEMONSTRATED COMPLIANCE (BIDDER TO INSERT DATA)</div> <div>SUBMITTED REFERENCE WITH PAGE AND PARAGRAPH NUMBER</div> </div>
MR-35A	Bidder must provide a Trials Manager with at least two years of experience working in the Quality Assurance sector of the marine industry.	Bidder must provide resume of the proposed resource. The resume must demonstrate two years of experience working in the Quality Assurance sector of the marine industry and/or as a Trials Manager in the marine industry.	

Solicitation No. - N° de l'invitation  
F7013-180034/C

Client Ref. No. - N° de réf. du client  
F7013-180034

Amd. No. - N° de la modif.  
004

File No. - N° du dossier  
007MBF7013-180034/C

Buyer ID - Id de l'acheteur  
007MB

CCC No./N° CCC - FMS No./N° VME

Modification #12 RR-6A of Attachment 4.2 (Rated Criteria) is deleted in its entirety and replaced with the following:

**ATTACHMENT 4.2**

VESSEL TECHNICAL EVALUATION – RATED CRITERIA					
		BIDDER'S RESPONSE			
ID #	POINT RATED REQUIREMENT	MAX POINTS	ASSESSMENT METHODOLOGY	EVALUATION CRITERIA	SUBMITTED REFERENCE WITH PAGE AND PARAGRAPH NUMBER
RR-6A	The Bidder's Vessel should have an open water (World Meteorological Organization Sea State 2 or less) maximum speed of greater than 10 knots with the vessel in deep departure load condition.	100 PTS	The Bidder should provide one of the following documents in which maximum speed in the deep departure load condition is indicated:  1. Full speed trial report; or 2. Tank test report; or 3. Computational Fluid Dynamics analysis.	0 PTS = Does not demonstrate a maximum speed greater than 10 knots  10 PTS = Demonstrates a maximum speed greater than 10 knots but less than 12 knots.  90 PTS = Demonstrates a maximum speed greater than or equal to 12 knots but less than 16 knots.	

Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C	CCC No./N° CCC - FMS No./N° VME
		100 PTS = Demonstrates a maximum speed greater than or equal to 16 knots.

Modification #13 RR-7A of Attachment 4.2 (Rated Criteria) is deleted in its entirety and replaced with the following:

#### ATTACHMENT 4.2

VESSEL TECHNICAL EVALUATION – RATED CRITERIA					
		BIDDER'S RESPONSE			
ID #	POINT RATED REQUIREMENT	MAX POINTS	ASSESSMENT METHODOLOGY	EVALUATION CRITERIA	DEMONSTRATED COMPLIANCE (BIDDER TO INSERT DATA)
RR-7A	<p>The Bidder's Vessel should have the fuel endurance required to break 0.6m of first year ice at 3 knots for a duration of greater than 15 days with a 10% reserve.</p> <p>The reserve is calculated as 10% of the total pumpable volume of fuel based on 95% fill level.</p>	20 PTS	<p>The Bidder should provide a calculation that demonstrates the endurance of the vessel with a 10% reserve.</p> <p>This calculation should use the Original Equipment Manufacture provided fuel consumption related to breaking 0.6m of first year ice at 3 knots, including all additional loads identified in the vessel's Electrical Load Analysis in a winter</p>	<p>0 PTS = Does not demonstrate a fuel endurance of greater than 15 days with a 10% reserve.</p> <p>7 PTS = Demonstrates a fuel endurance of greater than 15 days but less than 19 days.</p>	

Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C	CCC No./N° CCC - FMS No./N° VME
		transit scenario, with all tanks being 95% full and the unpumpable portion of the tanks being considered.
		13 PTS = Demonstrates a fuel endurance of greater than or equal to 19 days but less than 23 days.  20 PTS = Demonstrates a fuel endurance of greater than or equal 23 days

Modification #14 RR-19A of Attachment 4.2 (Rated Criteria) is deleted in its entirety and replaced with the following:

ATTACHMENT 4.2

VESSEL TECHNICAL EVALUATION – RATED CRITERIA					
BIDDER'S RESPONSE					
ID #	POINT RATED REQUIREMENT	MAX POINTS	ASSESSMENT METHODOLOGY	EVALUATION CRITERIA	DEMONSTRATED COMPLIANCE (BIDDER TO INSERT DATA)
RR-19A	The Bidder's Vessel should be fitted with sufficient cabins to accommodate more than 20 crew members.	450 PTS	The Bidder should provide an as-fitted General Arrangement drawing with required annotations to demonstrate the cabin occupancy.	0 PTS = Does not demonstrate presence of required cabins.  300 PTS = Demonstrates	

Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB	CCC No./N° CCC - FMS No./N° VME		
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C			presence of 10 single cabins and 8 double cabins.  400 PTS = Demonstrates presence of 26 single cabins.  450 PTS = Demonstrates presence of 26 single cabins and 4 double cabins.	

Modification #15 - Insert new Rated Criteria RR-20A in Attachment 4.2:

ATTACHMENT 4.2

VESSEL TECHNICAL EVALUATION – RATED CRITERIA				
		BIDDER’S RESPONSE		
ID #	POINT RATED REQUIREMENT	MAX POINTS	ASSESSMENT METHODOLOGY	EVALUATION CRITERIA
RR-20A	The Bidder should provide specific evidence that the Vessel can break 0.6m of first year ice at 3 knots.	500 PTS	The Bidder should provide the specified evidence demonstrating that the vessel has the capability to break 0.6m of first year ice at 3 knots.	50 PTS = Provides evidence that the vessel has performed the required
				SUBMITTED REFERENCE WITH PAGE AND PARAGRAPH NUMBER

Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB			
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C	CCC No./N° CCC - FMS No./N° VME			
			icebreaking through electronic logs and ice map.  350 PTS = Provides evidence that the vessel can perform the required icebreaking through icebreaking model testing results.  500 PTS = Provides evidence that the vessel can perform the required icebreaking through full scale ice trial report. Evidence can include extrapolation based on actual trial ice conditions and results, but the extrapolation must be contained and		

Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB			
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C	CCC No./N° CCC - FMS No./N° VME		supported in the full scale ice trial report.	

Modification #16 - Insert new Rated Criteria RR-21A in Attachment 4.2:

#### ATTACHMENT 4.2

VESSEL TECHNICAL EVALUATION – RATED CRITERIA					
		BIDDER'S RESPONSE			
ID #	POINT RATED REQUIREMENT	MAX POINTS	ASSESSMENT METHODOLOGY	EVALUATION CRITERIA	DEMONSTRATED COMPLIANCE (BIDDER TO INSERT DATA)
RR-21A	The Bidder should be able to demonstrate the vessel's successful operation, within the last five years as of April 1 <sup>st</sup> , 2020, in air temperatures of -30C to +35C and water temperatures of -1C to +30C.	200 PTS	The Bidder should provide the required logs to demonstrate when and where the applicable operations were conducted, what operations were conducted, the ambient air and water temperatures during these operations and that there were no machinery warnings, alarms or automatic shutoffs triggered due to these ambient temperatures.	0 PTS = Does not demonstrate successful operations in any of the listed temperature extremes  50 PTS = Demonstrates successful operation in one of the listed temperature extremes (-30C	



Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB				
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C	CCC No./N° CCC - FMS No./N° VME				
				<p>air temperature, +35C air temperature, -1C water</p> <p>temperature or +30C water temperature).</p> <p>100 PTS = Demonstrates successful operation in two of the listed temperature extremes (-30C air temperature, +35C air temperature, -1C water</p> <p>temperature or +30C water temperature).</p> <p>150 PTS = Demonstrates successful operation in three of the listed temperature extremes (-30C air temperature, +35C air temperature, -1C water</p>		

Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB		
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C	CCC No./N° CCC - FMS No./N° VME		
			temperature or +30C water temperature).  200 PTS = Demonstrates successful operation in four of the listed temperature extremes (-30C air temperature, +35C air temperature, -1C water temperature or +30C water temperature).	

Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

Modification #17 - The amount of Maximum Technical Points of Attachment 4.2 (Rated Criteria) is deleted in its entirety and replaced with the following:

ATTACHMENT 4.2

VESSEL TECHNICAL EVALUATION – RATED CRITERIA					
		BIDDER'S RESPONSE			
ID #	POINT RATED REQUIREMENT	MAX POINTS	ASSESSMENT METHODOLOGY	EVALUATION CRITERIA	DEMONSTRATED COMPLIANCE (BIDDER TO INSERT DATA)
Submitted Reference with Page and Paragraph Number					
	Maximum Technical Points	3500			

Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

**Modification #18 - Delete the following in ATTACHMENT 4.4, PHASE 1 - VESSEL BID CONFIRMATION ASSESSMENT – INSPECTION AND DOCK TRIALS:**

**Electrical System Dock Trial**

Mandatory Criteria Verified: MR-27A and MR-28A.

27. For each tested permutation, the Bidder must demonstrate:
- a. That the voltage, amperage, frequency, power and power factor are within the specified operational limits;
  - b. That the associated readings at the generator local panel, main switchboard and machinery control system align; and
  - c. That the readings are steady and that the load is shared equally when generators are paralleled.

**Insert the following in ATTACHMENT 4.4, PHASE 1 - VESSEL BID CONFIRMATION ASSESSMENT – INSPECTION AND DOCK TRIALS:**

**Electrical System Dock Trial**

Rated Criteria Verified: RR-14A.

27. For each tested permutation, the Bidder must demonstrate:
- a. That the voltage, amperage, frequency, power and power factor are within the specified operational limits;
  - b. That the associated readings at the generator local panel, main switchboard and machinery control system align; and
  - c. That the readings are steady and that the load is shared equally when generators are paralleled.

If any of the limits or criteria for the above are not explicitly stated within the Vessel Specification, the Bidder must use Transport Canada TP-127 Ships Electrical Standards – Part 1 Chapter 16 Generating Plant and Motors to determine the value and criteria based on their proposed vessel. TP-127 Publication is available for free at <https://www.tc.gc.ca/eng/marinesafety/tp-menu-515.htm>

Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

**Modification #19 - Delete the following in ATTACHMENT 4.6 - PHASE 2 – VESSEL BID CONFIRMATION ASSESSMENT - INSPECTIONS, DOCK AND SEA TRIALS:**

**Emergency Power Trial**

Mandatory Criteria Verified: MR-28A

**Insert the following in ATTACHMENT 4.6 - PHASE 2 – VESSEL BID CONFIRMATION ASSESSMENT - INSPECTIONS, DOCK AND SEA TRIALS:**

**Emergency Power Trial**

Rated Criteria Verified: RR-14A.

**Modification #20: Delete the following in ATTACHMENT 4.6 - PHASE 2 – VESSEL BID CONFIRMATION ASSESSMENT - INSPECTIONS, DOCK AND SEA TRIALS:**

**Endurance Trial**

17. The vessel must be operated at maximum speed for a duration of no less than one hour. During this time, helm maneuvers must be kept to a minimum. At 15 minute intervals (i.e.: 0 minutes, 15 minutes, 30 minutes, 45 minutes and 60 minutes), the instantaneous fuel consumption must be recorded.

**Insert the following in ATTACHMENT 4.6 - PHASE 2 – VESSEL BID CONFIRMATION ASSESSMENT - INSPECTIONS, DOCK AND SEA TRIALS:**

**Endurance Trial**

17. The vessel must be operated at the propulsion power equal to that required to break 0.6m of first year ice at 3 knots for a duration of no less than one hour. During this time, helm maneuvers must be kept to a minimum. At 15 minute intervals (i.e.: 0 minutes, 15 minutes, 30 minutes, 45 minutes and 60 minutes), the instantaneous fuel consumption must be recorded.

**Modification #21: Delete the following in ATTACHMENT 4.6 - PHASE 2 – VESSEL BID CONFIRMATION ASSESSMENT - INSPECTIONS, DOCK AND SEA TRIALS:**

**Electrical Power Generation and Distribution Trial**

Mandatory Criteria Verified: MR-27A.

38. For each of the permutations, the Bidder must demonstrate:

Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

- a. That the voltage, amperage, frequency, power and power factor are within the specified operational limits;
- b. That the associated readings at the generator local panel, main switchboard and machinery control system align; and
- c. That the readings are steady and that the load is shared equally when generators are paralleled.

Insert the following in ATTACHMENT 4.6 - PHASE 2 – VESSEL BID CONFIRMATION ASSESSMENT - INSPECTIONS, DOCK AND SEA TRIALS:

### **Electrical Power Generation and Distribution Trial**

Rated Criteria Verified: RR-14A.

38. For each of the permutations, the Bidder must demonstrate:

- a. That the voltage, amperage, frequency, power and power factor are within the specified operational limits;
- b. That the associated readings at the generator local panel, main switchboard and machinery control system align; and
- c. That the readings are steady and that the load is shared equally when generators are paralleled.

If any of the limits or criteria for the above are not explicitly stated within the Vessel Specification, the Bidder must use Transport Canada TP-127 Ships Electrical Standards – Part 1 Chapter 16 Generating Plant and Motors to determine the value and criteria based on their proposed vessel. TP-127 Publication is available for free at <https://www.tc.gc.ca/eng/marinesafety/tp-menu-515.htm>

Modification #22 – Article 7A.1 (a) is deleted in its entirety and replaced with the following:

### **7A.1 Requirement**

- (a) \_\_\_\_\_ (the "**Contractor**") agrees to sell, transfer, provide and deliver to the Client the following Light Icebreaker Vessel (also known as the "Vessel"):

- (i) Light Icebreaker Vessel:

Name of Vessel: TBD

Solicitation No. - N° de l'invitation F7013-180034/C	Amd. No. - N° de la modif. 004	Buyer ID - Id de l'acheteur 007MB
Client Ref. No. - N° de réf. du client F7013-180034	File No. - N° du dossier 007MBF7013-180034/C	CCC No./N° CCC - FMS No./N° VME

IMO Number: TBD

Classification Society: TBD

Class Notation: TBD

Year of Build: TBD Builder/Yard: TBD

Flag: TBD Place of Registration: TBD

Gross Tonnage (GT)/  
Net Tonnage (NT): TBD

- (ii) including the services of a Project Team in paragraphs 7. and 8. of Annex A to Contract A;
- (iii) including all Spares as described in paragraphs 41., 42., 43. and 44. of Annex A to Contract A;
- (iv) including all Tools and Test Equipment as described in paragraphs 45. and 46. to Annex A to Contract A;
- (v) including Vessel Familiarization and Vessel Custodian Training as described in paragraphs 47., 48., 49. and 50. to Annex A to Contract A;
- (vi) including all drawings, 3D models, calculations, reports, studies, Original Equipment Manufacturer manuals, maintenance records and reports, regulatory and classification society as described in paragraphs 36., 37., 38., 40. and 51. to Annex A to Contract A;
- (vii) including access to the required information systems for maintenance records as described in paragraph 39. and access to the required information systems for classification society as described in paragraph 53. to Annex A to Contract A;
- (viii) including all inspections, tests and trials as described in paragraphs 19 to 27 to Annex A of Contract A and in Annex C1 of Contract A;
- (ix) including a Compartment Close-Out Inspection and Post-Delivery Sea Trials as described in paragraphs 54 and 57 to Annex A of Contract A and in Annex C2 of Contract A; and
- (x) including vessel transit and delivery to the specified delivery location, Prescott, Ontario, Canada.

All in accordance with, and at the prices set out in, the Contract.

Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

## **Questions and Answers**

### **Question # 3**

*The bid requires that all technically compliant vessels are made available for inspections and dock trials as specified in Attachment 4.4., and that any failure to perform will disqualify the bid. Can Canada indicate how much notice will be given for these inspections, and how this requirement will be interpreted? At any time certain equipment may be out of service for overhaul or other reasons, and it is unreasonable that a single "failure" can lead to rejection of a vessel.*

### **Answer to question # 3**

As described in article 4.3 (Vessel Bid Confirmation Assessment Phase 1 - Inspections and Dock Trials) Canada will provide no fewer than 10 working days of notice before the scheduled date for the Phase 1 Inspections and Dock Trials.

Demonstration required for phase 1 (for Mandatory and applicable rated criteria) will be as described in Attachment 4.4.

Irrespective of any issue that might occur during the Vessel Bid Confirmation Assessment Phase 1 - Inspections and Dock Trials, the Bidders will have 3 working days to demonstrate the mandatory criteria and applicable rated criteria as described in Attachment 4.4.

Furthermore please see Modifications #3 and #4 of this solicitation amendment 004

### **Question # 4**

*Many of the criteria in Attachment 4.4 are quite vague, and it is unclear what criteria Canada will actually apply to acceptance or rejection. For example no 27c requires that "readings are steady and that the load is shared equally when generators are paralleled". Steady and equally within what limits? Will Canada provide numerical values for all such criteria?*

### **Answer to question # 4**

As stated in Part 4 of the RFP under para 4.3 and 4.6, the Vessel Bid Confirmation Assessment is being conducted "in order to verify compliance with the requirements of this bid solicitation." Aspects of the vessel that are beyond the scope of the mandatory and rated criteria, if applicable to the bid, will not be subject to inspections or trials.

The description of the trials within Attachments 4.4 and 4.6 is only to provide the Bidder with a better understanding of the expected scope of the trials.

Furthermore please see Modifications #18, #19 and #21 of this solicitation amendment 004



Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

### **Question # 5**

*An extensive program of sea trials is required prior to delivery to Canada. Can Canada confirm that the cost of these trials will be covered by Canada, whether or not the vessel is accepted into service with CCG?*

### **Answer to question # 5**

As stated in Part 4 para 4.3 and 4.6 of the RFP, the inspections, tests and trials associated with phase 1 and 2 of the Vessel Bid Confirmation Assessment must be conducted at no cost to Canada.

### **Question # 6**

*A delivery voyage is required prior to delivery to Canada. Can Canada confirm that the cost of these trials will be covered by Canada, whether or not the vessel is accepted into service with CCG?*

### **Answer to question # 6**

The vessel transit and post-delivery trials are part of the Work required under the vessel acquisition contract and thus will be subject to the associated basis of payment.

For Clarity purposes please also see Modification #22 of this solicitation amendment 004.

### **Question # 7**

*For clarity, questions 3 and 4 are based on the fact that the other requirements of the RFP do not provide any certainty that the vessel will be accepted for certification by Transport Canada. Is Canada's acceptance of the proposed vessel conditional on achieving transfer of flag?*

### **Answer to question # 7**

The RFP sets out the process, including the vessel confirmation assessment as set out in 4.3 and 4.6, by which Canada assesses whether the proposed vessel meets the requirements of Canada. The winning bidder, selected in accordance with the terms of the RFP, will then be required to fulfill the terms and conditions of the awarded contract as set out in Part 7(a) of the RFP.

For the purposes of selecting the winning bidder, the achieving transfer of flag is not evaluated.

### **Question # 8**

*Mandatory criterion MR-1A specifies an ice class of at least IACS PC 6. However, the equivalency approach cited does not meet IACS, IMO or Transport Canada requirements for the*

Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

*demonstration of equivalency. Will Canada require that the vessel is certified as PC 6 (or better) or will this flawed method be used for the evaluation?*

### **Answer to question # 8**

Canada does not require the vessel to be certified as IACS PC6, it only needs the vessel to qualify as equivalent to PC6 in accordance with Table 1 to Attachment 4.1.

### **Question # 9**

*Mandatory criterion MR-1A also requires that the vessel has a rounded stem. Can Canada define what this means, and why it is required? Many types of stem are used in icebreaking vessels.*

### **Answer to question # 9**

Rounded stem is defined as the design element where the bow angle is significantly reduced and has a rounded shape to decrease the crushing force at the stem during icebreaking. See attached graphic for a visual representation.

A rounded stem is a mandatory requirement as this is the standard stem design on Canadian Coast Guard icebreakers and will thus allow crew from the existing fleet of vessels to quickly become familiar with operating this new vessel. This quick transition and reduced training requirement have been deemed essential for the on-time operationalization of the Light Icebreaker post conversion.

### **Question # 10**

*Mandatory criterion MR-2A requires amongst other things a class-approved bridge line of sight drawing. This is not a standard class document. Can Canada explain its requirement, and whether this is linked to a specific class notation?*

### **Answer to question # 10**

Sufficient visibility within the navigational bridge is fundamental to the safe and effective operation of the vessel. Therefore Canada requires proof, via an approved drawing, that the visibility provided adheres to Class rules and international regulations.

The bridge line of sight drawing is required to prove compliance with IMO Resolution A.708 - Navigation Bridge Visibility and Functions, MSC Circular 982 - Guidelines on Ergonomic Criteria for Bridge Equipment and Layout and SOLAS Chapter V, Regulation 22 - Navigational Bridge Visibility.

Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

### **Question # 11**

*Mandatory criterion MR-3A requires a 0.6m icebreaking capacity to be provided. Can Canada provide the ice strength at which this is needed, and how trials or operations at different strengths will be assessed for compliance, particularly if only ice chart data is submitted?*

### **Answer to question # 11**

Canada has reviewed the requirement, and MR-3A remain unchanged.

It is recognized that the various objective evidence that can be submitted to prove compliance provide differing levels of detail with regards to vessel icebreaking capability. Thus a rated criteria, RR-20A, will be inserted. Please see Modification #15 of this solicitation amendment 004.

### **Question # 12**

*Mandatory criterion MR-6A requires a maximum intact draft of 4.7m. Will Canada accept that a vessel that can meet all endurance and other requirements at a draft of less than 4.7m, but has a higher draft in maximum loading conditions?*

### **Answer to question # 12**

Canada has reviewed the requirement, and MR-6A remain unchanged.

### **Question # 13**

*MR-8A requires a maximum freeboard of 1.8m. Can Canada explain this requirement, as many existing CCG icebreakers do not appear to comply?*

### **Answer to question # 13**

Canada has reviewed the requirement, and MR-8A remain unchanged.

### **Question # 14**

*MR-13A requires a trial report or tank test in sea state 2. Normally such tests and trials are in calm water. The alternative of using CFD is expensive and such analyses are not well validated. Will Canada consider alternative methods for demonstrating speed?*

### **Answer to question # 14**

Please see Modifications #5 and #12 of this solicitation amendment 004.

Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

### **Question # 15**

*12. MR-14A requires demonstration of full power endurance for 15 days. This appears to penalize higher power vessels; e.g. a ship capable of 15 kts will go 50% further than one which can only achieve 10kts. Will Canada revise the endurance requirement to provide a range requirement at [x] knots? Will Canada also clarify the additional loads in a transit scenario, given that these can be highly variable e.g. based on temperature.*

### **Answer to question # 15**

Please see Modifications #6, #13 and #20 of this solicitation amendment 004.

### **Question # 16**

*MR-15A defines towing capacity through having bollard test data. However, bollard pull itself does not give a vessel the configuration to tow anything. Rated requirements RR8A and 9A show an expectation that a towing winch will be fitted, but many vessels tow with a bollard/towing bitt. Will Canada revise these criteria to allow for alternative forms of towing capability?*

### **Answer to question # 16**

Canada has reviewed the requirements, and MR-15A, RR-8A and RR-9A remain unchanged.

### **Question # 17**

*MR-16A requires that the vessel is fitted with high and low sea boxes or sea chests. As the vessel is also required to have effective ice clearing arrangements, can Canada provide an explanation for this requirement, which will disqualify many vessels?*

### **Answer to question # 17**

Canada has reviewed the requirements, and MR-16A remain unchanged.

### **Question # 18**

*MR-17A and MR-18A require large fresh water tankage and a very large FW generation capacity, both of which are mandatory and neither of which are linked to actual crewing levels. Will Canada specify an FW consumption/endurance requirement that will allow bidders to demonstrate performance in other ways?*

### **Answer to question # 18**

Canada has reviewed the requirements, and MR-17A and MR-18A remain unchanged.

Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

### **Question # 19**

*MR-19A allows bidders to show how a capability not currently fitted could be installed. Can Canada explain why this option is not available for many other mandatory requirements for which retrofit does not appear to be allowed? In many cases upgrades to these other requirements would be easier and less expensive than the installation of a large davit system. Further, can Canada explain what is meant by "unrestricted launch and recovery" and also why the location must be that currently designated for a rescue craft?*

### **Answer to question # 19**

Please see Modification #7 of this solicitation amendment 004.

### **Question # 20**

*MR-20A requires certification of operating temperatures. Can Canada provide definition of what these temperatures are; e.g. MDT, MDLT or other? As such certifications are not required for most vessels, will Canada accept successful service experience as in the case of e.g. MR-3A?*

### **Answer to question # 20**

Please see Modification #16 of this solicitation amendment 004.

### **Question # 21**

*MR-23A and MR-24A are similar to MR-17A and 18A in requiring capacities that are not linked to crew size or endurance. Will Canada specify a consumption/endurance requirement that will allow bidders to demonstrate performance in other ways?*

### **Answer to question # 21**

Canada has reviewed the requirements, and MR-23A and MR-24A remain unchanged.

### **Question # 22**

*MR-25A requires SOLAS compliance. This is normally demonstrated by a SOLAS certificate, which can be issued by a flag state or and RO. Can Canada explain why only a class certificate will be accepted?*

### **Answer to question # 22**

Please see Modification #9 of this solicitation amendment 004.

Solicitation No. - N° de l'invitation  
F7013-180034/C

Amd. No. - N° de la modif.  
004

Buyer ID - Id de l'acheteur  
007MB

Client Ref. No. - N° de réf. du client  
F7013-180034

File No. - N° du dossier  
007MBF7013-180034/C

CCC No./N° CCC - FMS No./N° VME

### **Question # 23**

*MR-30A requires that no hydrocarbon tanks are to be in contact with the hull. This requirement is more stringent than either IMO or TC's requirements for polar certification, and is not met by the majority of CCG's own fleet, including the recently acquired medium icebreakers. Will Canada relax this requirement to something more in line with international norms?*

### **Answer to question # 23**

Canada has reviewed the requirements, and MR-30A remain unchanged.

### **Question # 24**

*MR-31A requires that potable water tank coatings conform to an ASNE standard. Vessels built outside North America will not comply directly with this standard. What methods of demonstrating equivalency will be acceptable to Canada?*

### **Answer to question # 24**

Please see Modification #10 of this solicitation amendment 004.

### **Question # 25**

*MR-35A requires that the Trials Manager has worked in the QA sector of the marine industry. In most cases, Trials Managers are not part of this sector. Will Canada accept experience as a Trials Manager as being acceptable?*

### **Answer to question # 25**

Please see Modification #11 of this solicitation amendment 004.

### **Question # 26**

*Would Canada be willing to accept a Light Icebreaker vessel that is in excess of 25 years old but underwent major refits (e.g. overhaul of engines and generators, new boilers and compressors, etc.)?*

### **Answer to question # 26**

No, Canada will not accept a vessel over 25 years old as of April 1st, 2020.

**ALL OTHER TERMS AND CONDITIONS OF THE RFP REMAIN UNCHANGED.**

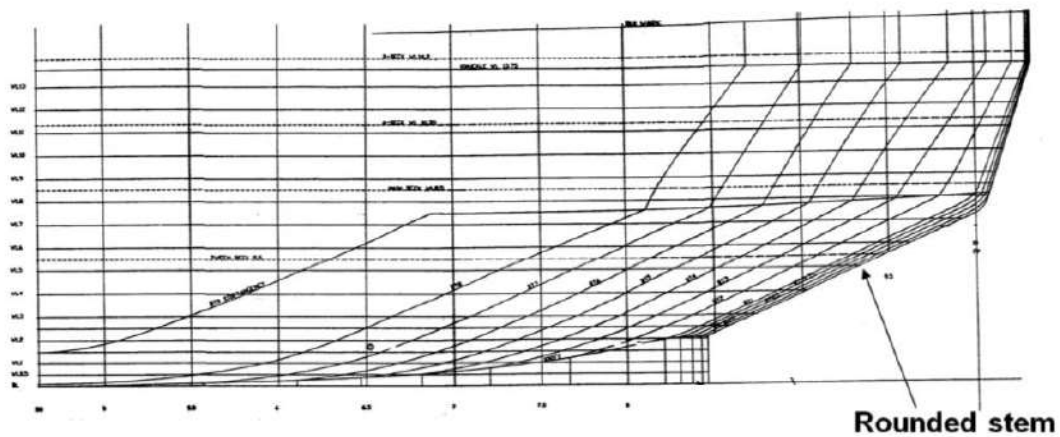


Fig. 11. Classical ice breaking bow shape (top) and modern icebreaker (bottom).

**MODIFIED FOR CLARITY**

Design of Ice Breaking Ship, Kay Riska, ILS Oy, Helsinki, Finland and University of Science and Technology, Trondheim, Norway

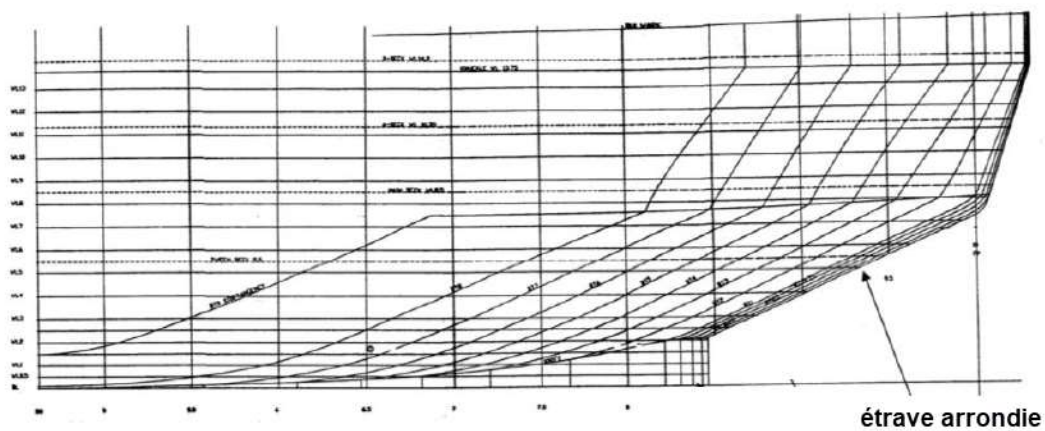


Fig. 11 Une forme de proue classique de déglacement (en haut) et un brise-glace moderne (en bas)

**MODIFIÉ POUR CLARIFICATION**

Concept d'un brise-glace, Kay Riska, ILS Oy Helsinki en Finlande, et l'Université de science et technologie à Trondheim en Norvège