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Title - Sujet Polar Helicopter Project	
Solicitation No. - N° de l'invitation F7013-230428/A	Date 2023-12-06
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Solicitation Closes - L'invitation prend fin at - à 02:00 PM Eastern Standard Time EST on - le 2025-12-05 Heure Normale du l'Est HNE	
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Polar Helicopter Project

Request for Information (RFI) Process

1. Purpose and Nature of the Request for Information Process

- 1.1. Public Services and Procurement Canada (PSPC) is requesting Industry feedback regarding the Polar Helicopter Project for the Canadian Coast Guard (CCG).
- 1.2. Annex A “Questions to Industry” is attached to this RFI. Industry is requested to review these questions and provide answers to the PSPC Contracting Authority identified under Section 3.5 Contracting Authority below on or before February 28, 2024.
- 1.3. Please note that the published RFI closing date **is not** the deadline for comments or input.
- 1.4. **THIS IS THE FIRST OF MULTIPLE POTENTIAL ENGAGEMENT ACTIVITIES PLANNED UNDER THIS RFI PROCESS.**
- 1.5. The intent of this RFI is to remain open until a formal solicitation process is released in the future. PSPC intends to release future engagement activities through amendments to this RFI process. Each subsequent amendment will clearly identify the information Canada is requesting and the requested Industry response date. This purpose of this RFI format is to:
 - a. provide a continuous single point of official project communication with industry;
 - b. present draft RFP documents to solicit industry comments and feedback;
 - c. collaborate with industry on all elements of the requirement such as technical, sustainment, in-service support, initial cadre training, Industrial and Technological Benefits (ITB) and Value Proposition (VP), performance management framework and the resulting contract’s terms and conditions;
 - d. answer questions from industry to ensure all interested participants receive the same information;
 - e. provide schedule updates; and
 - f. hold industry meetings and engagement activities, as necessary.
- 1.6. The objective of this RFI process is to:
 - a. ensure Canada’s expectations for engagement are clear and easy for Industry to understand;
 - b. foster innovation and deliver the best solution possible for Canada;

- c. fully understand any potential Polar Helicopter solutions the market has to offer, and leverage Industry expertise to develop an efficient and effective procurement strategy that achieves the project's objectives and best value to Canada;
 - d. proactively communicate the Government's commitment to acquire and support a Polar Helicopter capability through a fair, open, transparent, and competitive procurement process;
 - e. communicate timely, relevant, and easy-to-understand information to ensure suppliers understand what the procurement process aims to achieve and how they can participate;
 - f. foster productive and positive working relationships with the Polar Helicopter Project supplier community to ensure the project's objectives are achieved;
 - g. seek feedback and validation from Industry on various critical aspects of the Polar Helicopter draft RFP package; and
 - h. advise Industry of potential engagement activities such as Industry Day events, site visits, one-on-one meetings, and other potential engagement activities.
- 1.7. This RFI process is neither a call for tender nor a Request for Proposal (RFP). No agreement or contract will be entered into based on this RFI process. The issuance of this RFI process is not to be considered in any way a commitment by the Government of Canada, nor as authority to potential respondents to undertake any work that could be charged to Canada. This RFI process is not to be considered as a commitment to issue a subsequent solicitation or award contract(s) for the work described herein.
- 1.8. Although the information collected may be provided as commercial-in-confidence (and, if identified as such, will be treated accordingly by Canada), Canada may use the information to assist in drafting performance specifications (which are subject to change) and for budgetary purposes.
- 1.9. Respondents are encouraged to identify, in the information they share with Canada, any information that they feel is proprietary, third party or personal information. Please note that Canada may be obligated by law (e.g. in response to a request under the Access of Information and Privacy Act) to disclose proprietary or commercially-sensitive information concerning a respondent (for more information: <http://laws-lois.justice.gc.ca/eng/acts/a-1/>).
- 1.10. Respondents are asked to identify if their response, or any part of their response, is subject to the Controlled Goods Regulations.
- 1.11. Participation in this RFI process is encouraged but is not mandatory. Similarly, participation in this RFI is not a condition or prerequisite for the participation in any potential subsequent solicitation.
- 1.12. Respondents will not be reimbursed for any cost incurred by participating in this RFI process.

2. Background Information

- 2.1. The intent of the Polar Helicopter Project is the procurement of *up to* four helicopters capable of operating from the new CCG polar icebreakers in the Canadian Arctic. The polar icebreakers are currently being constructed, and the first vessel is expected to be delivered in 2030. The CCG requires that the polar helicopters be delivered in 2028 in order to ensure that the helicopter, the aircrew and the in-service support are ready for operations when the icebreakers are delivered.
- 2.2. The polar helicopters will operate from the CCG polar icebreakers in Canada's Arctic region year-round supporting the CCG's Arctic program and the Government of Canada's *Arctic and Northern Policy Framework*. The polar icebreakers will deploy with up to two polar helicopters onboard that can be simultaneously secured inside the hangar while at sea. The shore-based location for the polar helicopters has not yet been selected.
- 2.3. Further project introduction, overview and scope details are contained in Annex A.

3. Potential Scope and Constraints

3.1. National Security Exception

Regarding national security interests, Canada is presently applying for a National Security Exception (NSE) for this procurement. This section will be updated as more information becomes available.

3.2. Trade Agreement applicability

The Polar Helicopter Project is not eligible under Canada's international trade agreements and is only eligible under the Canada Free Trade Agreement.

3.3. Industrial and Technological Benefits Policy

The Industrial and Technological Benefits (ITB) Policy, including Value Proposition, may apply to the Polar Helicopter Project, requiring the winning bidder to undertake business activities in Canada equal to the value of the contract. For more information on the ITB Policy, consult the ITB website: <https://ised-isde.canada.ca/site/industrial-technological-benefits/en>.

3.4. Schedule

Canada is finalizing the procurement schedule which will be communicated under a future RFI amendment.

3.5. Contracting Authority

3.5.1. Interested Respondents may submit their responses to the PSPC Contracting Authority, identified below, preferably via email.

Tim Blahey
Supply Team Leader
Civilian Aircraft Division (CAG)
Defence and Marine Procurement Branch
Public Services and Procurement Canada / Government of Canada
tim.blahey@tpsgc-pwgsc.gc.ca
Tel: 873-354-1679

3.5.2. A point of contact for the Respondent should be included in each delivery.

3.5.3. Changes to this RFI may occur and will be advertised on CanadaBuys. Canada asks Respondents to visit [CanadaBuys](#) regularly to check for changes, if any.

3.6. Questions Submitted by Industry

3.6.1. All enquiries and other communications related to this RFI process shall be directed exclusively to the PSPC Contracting Authority identified in Section 3.5 Contracting Authority. While Canada intends to respond to Industry questions by releasing answers periodically through subsequent RFI amendments, responding to questions will be managed on a best effort basis.

3.6.2. Often Canada may not be in a position to answer certain questions because requirements may not yet be finalized on various aspects of the requirement. Unanswered questions are still valuable feedback, as it allows Canada to see where Industry may have concerns, or where a different approach to a requirement may be possible.

3.6.3. As Industry feedback is submitted and reviewed for consideration over the course of the RFI process, Canada intends to periodically release updated versions of various draft RFP documents. These updated documents often answer questions submitted by Industry.

3.7. Additional Information Requests

Throughout the RFI process, the PSPC may request additional information, clarifications, or site visits from Respondents.

3.8. Fairness Monitor

3.8.1. Canada has engaged the services of an organization to function as an independent, third-party Fairness Monitor (FM). The role of the FM is to provide an attestation of assurance on the fairness, openness, and transparency of the monitored activities. The FM's duties include, but will not be limited to the following:

- a. observing all or part of the procurement process (including, but not limited to, the engagement and contemplated RFP processes);
- b. providing feedback to Canada on fairness issues; and
- c. attesting to the fairness of the procurement process.

3.8.2. Please note that, for the purpose of conducting its FM related obligations, the FM will be granted access to industry responses and related correspondence received by Canada as a result of this RFI and will function as an observer at potential follow-up engagement or contracting activities.

3.9. Information Related to the Indigenous Participation

Canada is considering incorporating Indigenous participation as part of the Polar Helicopter Project in order to meet the Government of Canada's commitments of advancing Indigenous socio-economic development through federal contracting opportunities. For more information, please visit [Indigenous business development \(isc-sac.gc.ca\)](http://isc-sac.gc.ca).

Polar Helicopter

Request for Information

Annex A

Questions to Industry

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Acronyms

AFCS	Automatic Flight Control Systems
AME	Aircraft Maintenance Engineer
CARs	Canadian Aviation Regulations
CCG	Canadian Coast Guard
GSM	Government Supplied Materiel
HLMR	High-Level Mandatory Requirement
ISA	International Standard Atmosphere
ITB	Industrial and Technological Benefits
KIC	Key Industrial Capabilities
LNAV	Lateral Navigation
LP	Localizer Performance
MCTOW	Maximum Certified Take Off Weight
NDA	Northern Domestic Airspace
NVIS	Night Vision Imaging System
OEM	Original Equipment Manufacturer
PBN	Performance-Based Navigation
R&D	Research and Development
RFI	Request for Information
RNP	Required Navigation Performance
SAR	Search and Rescue
SDA	Southern Domestic Airspace
TAS	True Air Speed
TCCA	Transport Canada Civil Aviation
VP	Value Proposition
WMO	World Meteorological Organization

1. Background

For the purposes of this Request for Information (RFI), the helicopters required by the Canadian Coast Guard (CCG) will be referred to as 'polar helicopters'.

The CCG is seeking information to support a procurement of up to four helicopters of the same make and model capable of operating from the new CCG polar icebreakers¹ in the Canadian Arctic. Two new CCG polar icebreakers are planned for construction, and the first vessel is expected to be delivered in 2030. The CCG requires that the polar helicopters be delivered two years in advance of the first polar icebreaker in order to ensure that the helicopter, the aircrew, and the in-service support are ready for operations.

The polar helicopters will operate from the CCG polar icebreakers in Canada's Arctic region year-round supporting the CCG's Arctic program² and the Government of Canada's *Arctic and Northern Policy Framework*³. The polar icebreakers will deploy with up to two polar helicopters onboard that can be simultaneously secured inside the hangar. The polar icebreakers will not be equipped with a flight deck recovery system nor a traversing system.

The shore-based location for the polar helicopters has not yet been selected.

Canada may consider seeking a National Security Exception for this procurement.

2. Project Scope

Canada is requesting information from industry regarding the availability, capability, and cost of the proposed helicopters that will meet the CCG requirements. Additional information regarding the availability and cost of mission equipment, initial cadre training, initial sparing, special tools and test equipment, and initial in-service support are also requested. The anticipated life cycle for the polar helicopter is 30 years.

3. Mission Profiles

The polar helicopters will support the polar icebreaker's delivery of the CCG's Arctic program by supporting the following mission profiles:

- 3.1. **Ice Reconnaissance** - the polar helicopters will perform ice reconnaissance missions to facilitate the movement of the polar icebreakers and other vessels navigating the Arctic waters.
- 3.2. **Supporting Arctic Science** - the polar helicopters will transport personnel and equipment to conduct scientific work in the Arctic. The science work will include activities such as installing science stations and collecting ice samples.

¹ <https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/mer-sea/sncn-nss/polaire-polar-eng.html>

² <https://www.ccg-gcc.gc.ca/programs-services-eng.html>

³ <https://rcaanc-cirnac.gc.ca/eng/1560523306861/1560523330587>

- 3.3. **Search and Rescue (SAR)** – the polar helicopters will not be primary SAR platforms. However, the helicopters could be dispatched to assist with SAR duties if they are available and in the vicinity of an incident.
- 3.4. **Protecting Canada’s Sovereign Interests in the Arctic** - the polar helicopters will be expected to demonstrate a visible sovereign presence throughout the Arctic region supporting the Government of Canada’s *Arctic and Northern Policy Framework*.
- 3.5. **Personnel and Cargo Transfer** – the polar helicopters will support the polar icebreaker personnel crew change, which typically occurs every 42 days, by ferrying 100 crew members and cargo from the vessel to local airfields.
- 3.6. **Environmental Response** – the polar helicopters will support this mission by providing: visual detection of the spill and/or event, reconnaissance and recording of visual and electronic data, management of the spill and/or event, and the transportation of people and equipment between ship and shore/ice and/or land-based sites.
- 3.7. **Northern Re-Supply and Logistic Supports** – the polar helicopters will transport personnel and cargo.
- 3.8. **Support for Aids to Navigation and Marine Communications Traffic System Sites** - the polar helicopters will transport technicians, electronics components, construction materials, and equipment.
- 3.9. **Fisheries Conservation and Protection** - the polar helicopters will support this program by conducting surveillance flights, transporting Conservation and Protection Officers, and gathering visual and electronic data to share with the polar icebreaker and other agencies.
- 3.10. **Maritime Security** - the polar helicopters will support the polar icebreakers with platform and logistical support to other maritime security partners.
- 3.11. **Support for Other Government Departments and Agencies** – the polar helicopter will be capable of supporting a wide range of activities as required to support other Government Departments and Agencies including medical evacuations.

4. Polar Helicopter Intended Operating Environment

The polar helicopters must be certified to fly in the following environmental conditions and geographical area:

- 4.1. The polar icebreaker area of operations is shown in Figure 1 below. The polar helicopter will operate year-round from the polar icebreaker in this region.

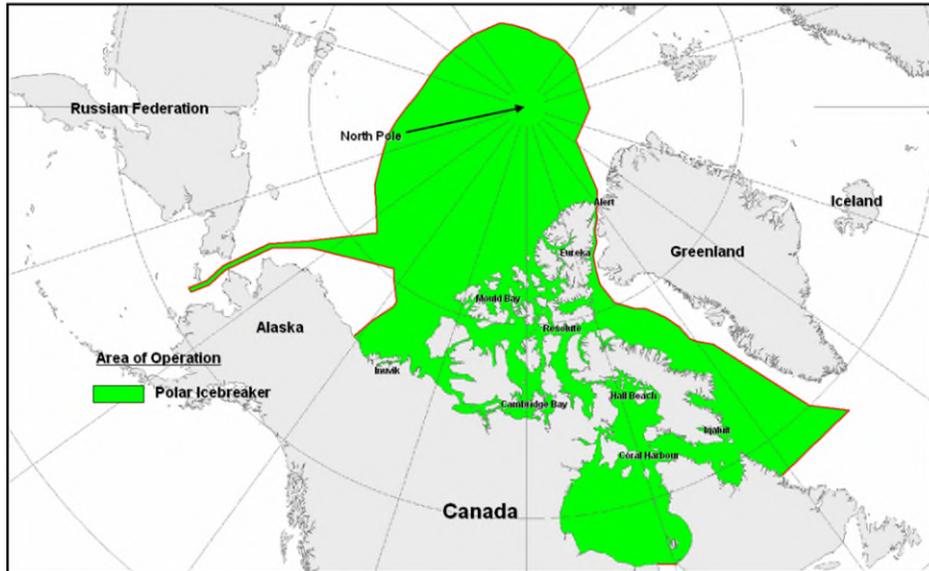


Figure 1: The CCG Polar Icebreaker Area of Operations

- 4.2. The helicopters must be certified for flight between -40°C and $+40^{\circ}\text{C}$, as they will operate from the CCG polar icebreakers year-round in the Canadian Arctic.
- 4.3. The polar helicopters will operate in Canada's Southern Domestic Airspace (SDA) and Canada's Northern Domestic Airspace (NDA), including the area of compass unreliability. See Figure 2 below.

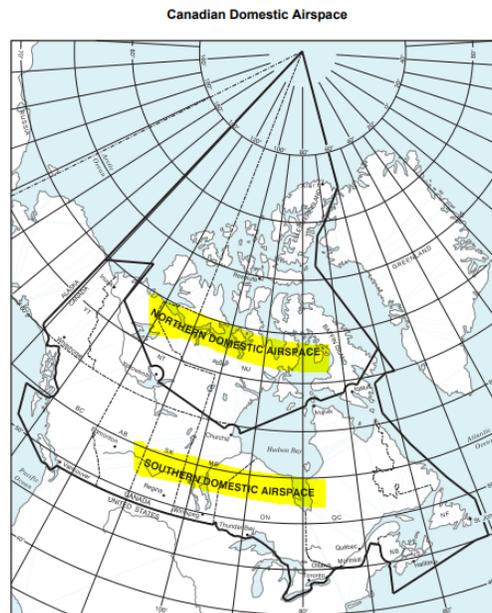


Figure 2: Canadian Domestic Airspace⁴

⁴ Source: https://tc.canada.ca/sites/default/files/migrated/dah_current_en.pdf

- 4.4. The polar helicopters will conduct operations at extended flight range and/or endurance from the polar icebreaker vessel.
- 4.5. The CCG is planning to fly each polar helicopter 350 flight hours per year.
- 4.6. The polar helicopters will conduct operations in both day and night visual meteorological conditions (VMC).
- 4.7. The polar helicopters will conduct operations in both day and night instrument meteorological conditions (IMC).

5. Mandatory Polar Helicopter Requirements

The following is a list of the high-level mandatory requirements (HLMR's) under consideration for the polar helicopter. **Please note:** the CCG polar helicopter HLMR's may be refined during the industry engagement process.

- 5.1. The proposed helicopter must hold a valid Transport Canada type certificate⁵ that meets the standards of the Transport Canada Airworthiness Manual Chapter 529 – Transport Category Rotorcraft – Canadian Aviation Regulations (CARs)⁶.
- 5.2. The proposed helicopter must meet the requirements for operation under the CARs Part VII, Sub Parts 703 and 704.
- 5.3. The proposed helicopter must have a main rotor blade folding capability that allows the blades to be folded and spread for flight operations aboard the CCG Polar Icebreaker vessels in conditions up to and including World Meteorological Organization (WMO) sea state six.
- 5.4. The proposed helicopter must be certified for flight into known or forecast icing conditions in accordance with CARs Part V - Airworthiness Manual Chapter 529⁷.
- 5.5. The proposed helicopter must be certified in accordance with CARs regulations⁸ for both day and night Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) operations.
- 5.6. The proposed helicopter must be capable of safe and effective operation under VFR and IFR regulations in both the southern and northern domestic Canadian airspace, including the area of compass unreliability.

⁵ The Transport Canada type certificate would be required at bid closing, if and when a Request for Proposals is issued.

⁶ <https://tc.canada.ca/en/corporate-services/acts-regulations/list-regulations/canadian-aviation-regulations-sor-96-433/standards/airworthiness-manual-chapter-529-transport-category-rotorcraft/airworthiness-manual-chapter-529-subchapter-b-canadian-aviation-regulations-cars>

⁷ <https://tc.canada.ca/en/corporate-services/acts-regulations/list-regulations/canadian-aviation-regulations-sor-96-433/standards/airworthiness-manual-chapter-529-transport-category-rotorcraft/part-v-airworthiness-manual-chapter-529-appendix-c>

⁸ <https://lois-laws.justice.gc.ca/eng/regulations/SOR-96-433/FullText.html#s-704.01>

- 5.7. In order to support CCG programs, such as passenger transfer and support to Arctic science, the proposed helicopter must be certified with seating provisions for a minimum of twelve passengers plus two pilots.
- 5.8. The proposed helicopter must be equipped with an auxiliary power unit or other means of maintaining safe operating temperatures of the avionics, aircraft components and cabin without the use of the main engines.
- 5.9. The proposed helicopter must be equipped and certified with dual four axis Automatic Flight Control Systems (AFCS) with auto approach to the hover, auto-hover, auto depart from the hover, and SAR mode capability.
- 5.10. The helicopter must be equipped with a Performance-Based Navigation (PBN) navigation system which is approved in accordance with FAA AC 20-138D including, at a minimum, the following PBN specifications:
 - i. Required Navigation Performance (RNP) approach with:
 - a. Lateral Navigation (LNAV);
 - b. Lateral Navigation/Vertical guidance (LNAV/VNAV);
 - c. Localizer Performance (LP), and
 - d. Localiser Performance with Vertical Guidance minima.
 - ii. Required Navigation Performance Authorization Required Approach, and
 - iii. RNP 0.3 (Rotorcraft Enroute, Terminal, and Offshore).
- 5.11. The proposed helicopter must be certified for Night Vision Imaging System (NVIS) operations.
- 5.12. The proposed helicopter must be certified for ditching up to and including WMO Sea State six conditions.
- 5.13. In order to support the CCG programs in the remote Canadian Arctic region, the proposed helicopter must be capable of a minimum cruise speed of at least 140 knots True Air Speed (TAS) (259.28 km/hr) at Maximum Certified Take Off Weight (MCTOW) and International Standard Atmosphere (ISA) sea level standard conditions.
- 5.14. In order to support the CCG programs in the Canadian Arctic and operate in compliance with the CARs for IFR fuel requirements⁹, the polar helicopter must be capable of carrying a minimum useful load of 1000 kg, plus the necessary fuel for at least 4 hours, at a cruise speed of at least 140 knots (259.28 km/hr) under International Standard Atmosphere (ISA) conditions.
- 5.15. All manufacturer's claims of performance must be based on the CCG configuration and will be verified during an Operational Evaluation managed and monitored by Canada prior to contract award.

⁹ <https://lois-laws.justice.gc.ca/eng/regulations/SOR-96-433/FullText.html#s-704.01>

- 5.16. In order to secure two polar helicopters inside the polar icebreaker hangar, the proposed helicopter (with the main rotor blades in the folded position) must fit within the following dimensions: 21,000 mm length, 5,300 mm wide, and 5,545 mm high.
- 5.17. While secured inside the polar icebreaker hangar with the main rotor blades in the folded position, the proposed helicopter must remain secured in conditions up to WMO sea state eight.

6. Questions to Industry – General Information

- 6.1. Please submit one complete response for each proposed helicopter type and model.
- 6.2. When responding to the financial questions, clearly indicate the currency used. If it is submitted in CAD, please provide the currency exchange rate that may have been applied.
- 6.3. Respondents are requested to provide any feedback, comments or concerns regarding the content, format, and/or organization of any of the information included in this RFI.
- 6.4. Respondents are free to choose how they wish to submit their response, as long as it is clearly organized and the document format is either MS Word or PDF.
- 6.5. Canada is requesting financial information for the purpose of project costing and budgetary purposes only. Canada is requesting that respondents clearly mark each page of all financial and technical information as Commercial-in-Confidence.
- 6.6. Canada may, at its discretion, contact any Respondents to follow up with additional questions or for clarification of any aspect of a response.
- 6.7. Any responses provided by Industry will not be evaluated and will only be used to assist Canada in creating budgetary and costing information and furthering the technical specifications necessary for the Polar Helicopter project. A team consisting of members of the Canadian Coast Guard and Public Services and Procurement Canada will review any submissions, and any responses will be safeguarded using established Government of Canada retention methods.

7. Questions to Industry – Technical

- 7.1. What is the make and model of your proposed helicopter?
- 7.2. How many helicopters of this make and model have you delivered over the last 10 years? Please include the customer name and quantity of aircraft delivered.
- 7.3. Is the manufacturing production line for the proposed helicopter still in operation?
- 7.4. If yes, what is the location of the manufacturing facility?
- 7.5. How many more years do you anticipate that this production line will remain open?

- 7.6. Following contract award, how long (in months) would it take to manufacture and deliver the first helicopter?
- 7.7. Following the delivery of the first helicopter what is the anticipated delivery schedule of the subsequent helicopters?
- 7.8. Please include a specification sheet for the proposed helicopter in your response to this RFI.
- 7.9. Can you provide a list of the equipment available for selection with the purchase of the proposed helicopter? Please include the associated Original Equipment Manufacturer (OEM).
- 7.10. Does the proposed helicopter meet all of the high-level mandatory requirements listed in Section 5, Mandatory Polar Helicopter Requirements, above?
- 7.11. Please provide details in Table 1 below on the capabilities available for the proposed helicopter.

Table 1: Polar Helicopter High-level Mandatory Requirements

High-Level Mandatory Requirement	Proposed helicopter can meet this requirement Yes or No	Please Provide Details On Capability
a) The proposed helicopter must hold a valid Transport Canada type certificate that meets the standards of the Transport Canada Airworthiness Manual Chapter 529 – Transport Category Rotorcraft – CARs.		
b) The proposed helicopter must meet the requirements for operation under the CARs Part VII, Sub Parts 703 and 704		
c) The proposed helicopter must have a main rotor blade folding capability that allows the blades to be folded and spread for flight operations aboard the CCG polar icebreaker vessels in conditions up to and including WMO sea state six.		
d) The proposed helicopter must be certified for flight into known or forecast icing conditions.		
e) The proposed helicopter must be certified with seating provisions for a minimum of twelve passengers plus two pilots.		
f) The proposed helicopter must be equipped with an auxiliary power unit or other means of maintaining safe operating temperatures of		

Table 1: Polar Helicopter High-level Mandatory Requirements

High-Level Mandatory Requirement	Proposed helicopter can meet this requirement Yes or No	Please Provide Details On Capability
the avionics, aircraft components and cabin without the use of the main engines.		
g) The proposed helicopter must be equipped and certified with dual four axis AFCS with auto approach to the hover, auto-hover, auto depart from the hover, and SAR mode capability.		
h) The helicopter must be equipped with a PBN navigation system which is approved in accordance with FAA AC 20-138D.		
i) The proposed helicopter must be certified for NVIS operations.		
j) The proposed helicopter must be certified for ditching up to and including WMO sea state six conditions.		
k) The proposed helicopter must be capable of a minimum cruise speed of at least 140 knots TAS (259.28 km/hr) at MCTOW and ISA sea level standard conditions.		
l) The helicopter must be capable of carrying a minimum useful load of 1000 kg, plus the necessary fuel for at least 4 hours, at a cruise speed of at least 140 knots (259.28 km/hr) at sea level ISA conditions.		
<p>m) In order to be secured inside the polar icebreaker hangar, the proposed helicopter (with the main rotor blades in the folded position) must fit within the following dimensions:</p> <ul style="list-style-type: none"> i. 21,000 mm length ii. 5,300 mm wide iii. 5,545 mm height <p>List the dimensions (in millimetres) of the proposed helicopter with the main rotor blades in the folded position (if applicable).</p>		
n) The proposed helicopter must be secured for maritime operations inside the polar		

Table 1: Polar Helicopter High-level Mandatory Requirements

High-Level Mandatory Requirement	Proposed helicopter can meet this requirement Yes or No	Please Provide Details On Capability
icebreaker hangar with the main rotor blades folded in conditions up to WMO sea state 8.		

- 7.12. Is your proposed helicopter currently certified in accordance with a Transport Canada type certificate that meets the standards of the Transport Canada Airworthiness Manual Chapter 529 – Transport Category Rotorcraft – CARs?

If the answer is no, please state the manufacturer's intentions and estimated timeline to obtain the Transport Canada certification.

- 7.13. Does your proposed helicopter have a main rotor blade folding capability that is suitable for maritime shipboard operations?

If yes, please describe the blade folding system.

If no, please state the manufacturer's intentions and estimated timeline to obtain this capability on the proposed helicopter.

- 7.14. Please state any wind limitations for the blade folding system.

- 7.15. Please describe any other restrictions for the blade folding system.

- 7.16. Besides the pilots in the cockpit, how many persons are required for the blade spread and blade fold operation?

- 7.17. Is there any additional equipment required in order to complete the blade fold or blade spread operation? Example: cradles, ladder or work stand.

- 7.18. How long (in minutes) does the blade spread operation take?

- 7.19. How long (in minutes) does the blade fold operation take?

- 7.20. If the proposed helicopter has an automatic blade fold system, does your proposed helicopter have a secondary blade folding system in the event that the primary blade fold system is inoperative?

- 7.21. In addition to the pilot seats, how many passengers is the proposed helicopter certified to carry?

- 7.22. Is there a removable auxiliary fuel tank available for the proposed helicopter?

If yes, please include description of size, fuel capacity, and the additional endurance provided with this equipment.

- 7.23. What is the maximum useful load on the proposed helicopter that can be carried for a minimum endurance of four hours at a minimum cruise speed of at least 140 knots TAS, ISA sea level standard conditions?
- 7.24. Is the proposed helicopter certified for the use of Sustainable Aviation Fuels and/or lower carbon aviation fuels? If yes, please provide details.
- 7.25. Is the proposed helicopter certified to withstand WMO sea state eight conditions with the main rotors folded and the helicopter lashed inside a CCG vessel hangar?
- 7.26. Are there requirements that the CCG should consider in the design and construction of the polar icebreaker hangar to enable the security of the proposed helicopter in a hangar in WMO sea state eight conditions.
- 7.27. Please describe the navigation equipment on the proposed helicopter that will be used to ensure that the polar helicopter can operate in Canada’s Northern Domestic Airspace including the area of compass unreliability.
- 7.28. Canada is considering the availability of additional polar helicopter equipment. Please provide information in Table 2 below:

Table 2: Additional Polar Helicopter Equipment

Description of Equipment	Included in Standard Helicopter Yes or No	Equipment can be supplied by:		
		Prime Contractor	Sub-Contractor to the Prime Contractor	Government Supplied Materiel
Helicopter – General				
Auxiliary fuel tank				
Auxiliary power unit				
Dual channel electronic engine controls				
Dual four axis automatic flight control system				
Flight Data recorder				
Helicopter corrosion protection program				
Lavatory				
Night vision imaging system				
Paperless cockpit design				

Table 2: Additional Polar Helicopter Equipment

Description of Equipment	Included in Standard Helicopter Yes or No	Equipment can be supplied by:		
		Prime Contractor	Sub-Contractor to the Prime Contractor	Government Supplied Materiel
Retractable wheel landing gear				
Navigation				
Automatic Dependent Surveillance-Broadcast (ADS-B) – In				
Automatic Dependent Surveillance-Broadcast (ADS-B) – Out Diversity system				
Automatic Identification System (AIS) receiver				
Automatic Direction Finder				
Dual Global Navigation Satellite System				
Heads Up display (NVIS compatible)				
Helicopter Terrain Awareness System				
Inertial Navigation Systems (x3)				
Integrated electronic flight, navigation, and engine instrumentation displays				
Iridium satellite Flight Following System				
Performance-Based Navigation system				
Radio Direction Finder				
Radar altimeter (certified to operate without 5G interference)				
Traffic Alert and Collision Avoidance System				
VFR and IFR moving map display including Canadian VNC and LE or JEPP charts integrated in the display				
Weather radar suitable for GNSS/ARA instrument approaches				

Table 2: Additional Polar Helicopter Equipment

Description of Equipment	Included in Standard Helicopter Yes or No	Equipment can be supplied by:		
		Prime Contractor	Sub-Contractor to the Prime Contractor	Government Supplied Materiel
Safety				
Automatic Deployable 406 MHZ Emergency Locator Beacon				
Cockpit Voice Recorder				
Externally mounted life raft(s), suitable for the seating capacity of the aircraft. Life raft must be automatically deployable and accessible in the advent the helicopter capsizes.				
Helicopter Emergency Egress lighting				
Helicopter floatation system				
Mission Equipment				
Cargo hook - long line remote release mechanism				
Cargo hook suspension system				
Electric dual hoist system				
Electro-Optical Infrared (EO/IR) 4-axis stabilization camera system				
External load weight display system located in the cockpit				
External spotlight - NVIS compatible, pilot controlled				
Provisions to secure one medevac stretcher in the cabin during flight operations				
Retractable desktop work station located in the cabin				
Vertical reference door or window to facilitate vertical reference long line slinging				

Communications				
Controller Pilot Data Link - Future Air Navigation Systems with DATALINK				
P25 compliant digital FM radio				
Two independent VHF air ground communications systems				
Voice activated controls for communication and navigation equipment				
WiFi based satellite internet system				

8. Questions to Industry – Training Solutions

Canada will initiate the process of developing its training solutions for both the pilots and the aircraft maintenance engineers (AMEs). To assist with the options analysis, Canada is interested in knowing the options available from industry.

- 8.1. Do you provide initial and recurrent Transport Canada Civil Aviation (TCCA) approved pilot training on the proposed helicopter?

If yes, please list in Table 3 below, all of the pilot-training courses available, the location, and the indicative cost per student for each training session.

Table 3: Factory Pilot Training Courses

Pilot Course Description	Pilot Course Location	Pilot Course Duration
a)		
b)		
c)		
d)		
e)		
f)		

- 8.2. If pilot training is not available, do you have a pilot training contractor that you would recommend to Canada for your proposed helicopter? Please list additional recommended pilot training courses in Table 4 below.

Table 4: Additional Recommended Pilot Training Courses

Recommended Pilot Course Description	Pilot Course Location	Pilot Course Duration
a)		
b)		
c)		

8.3. Do you provide TCCA AME training for the proposed helicopter?

If yes, please list in Table 5 below, a description of the available AME training courses, the location, and the duration of the training.

Table 5: Factory AME Training Courses

AME Course Description	AME Course Location	AME Course Duration
a)		
b)		
c)		
d)		

8.4. If AME training is not available, do you have AME training contractors that you would recommend to Canada for your proposed helicopter? Please list below in Table 6.

Table 6: Additional Recommended AME Training Courses

Recommended AME Course Description	AME Course Location	AME Course Duration
a)		
b)		
c)		

9. Questions to Industry – In-Service Support

Canada will initiate the process of developing its in-service support solutions. The shore-based location of the CCG Polar helicopters has not yet been selected. To assist with the in-service support options analysis, Canada is interested in knowing the facts, best practices, and costing information from industry to operate the proposed helicopter from ashore and while embarked on the polar icebreakers.

- 9.1. Please describe the in-service support capability that can be provided to support the proposed helicopter at a shore-based location in Canada. Please list any constraints.
- 9.2. Please describe the in-service support capability that can be provided to support the proposed helicopter while embarked on a CCG vessel. Please list any constraints.
- 9.3. Are there any major systems on the proposed helicopter that Canada will not be able to conduct maintenance activities? If yes, please describe the systems, and the associated OEM maintenance requirements.
- 9.4. Do you have a recommended spare parts list for the proposed helicopter? If yes, please provide a list of the items.
- 9.5. The CCG intends to fly each polar helicopter up to 350 flight hours per year in the Canadian Arctic region. Could you provide a recommended spare parts list that should be carried aboard the CCG polar icebreaker to support extended flight operations?
- 9.6. Do you have a recommended list of special tools and test equipment that are unique to the proposed helicopter? If yes, please provide a list of the items.
- 9.7. Canada is considering a warranty package for the polar helicopters. Please provide details of the warranty package offered for the proposed helicopter.
- 9.8. List items that are not included in the warranty package.
- 9.9. For how long is the warranty package valid following delivery of the helicopter?

10. Questions to Industry – Financial

10.1. Please provide indicative pricing in the currency of your choice for the proposed helicopter.

Table 7: Standard Helicopter Pricing

Description	Quantity	Unit price per helicopter Please indicate the currency used
Standard helicopter as proposed <i>Please indicate the cost per helicopter if Canada were to purchase a total of 1, 2, 3, or 4 helicopters.</i>	1	
	2	
	3	
	4	

10.2. Please provide indicative pricing in the currency of your choice for the following items.

(Please indicate if the equipment is included in the standard helicopter price).

Table 8: Polar Helicopter Equipment Pricing

Polar Helicopter Item Description	Quantity	Cost Please indicate the currency
Helicopter – General		
1. Auxiliary fuel tank		
2. Auxiliary power unit		
3. Blade folding kit		
4. Dual channel electronic engine controls		
5. Dual four (4) axis automatic flight control system		
6. External paint scheme and identification markings in accordance with the Government of Canada's Design Standard for the Federal Identity Program. <i>www.canada.ca/en/treasury-board-secretariat/services/government-communications/design-standard.html</i>		
7. Flight Data recorder		

Table 8: Polar Helicopter Equipment Pricing

Polar Helicopter Item Description	Quantity	Cost Please indicate the currency
8. Helicopter corrosion protection program		
9. Lavatory		
10. Night vision imaging system		
11. Paperless cockpit design		
12. Retractable wheel landing gear		
13. Radar altimeter (certified to operate without 5G interference)		
Navigation		
14. Automatic Dependent Surveillance-Broadcast ADS-B – In		
15. Automatic Dependent Surveillance-Broadcast (ADS-B) – Out Diversity system		
16. Automatic Identification System (AIS) receiver		
17. Automatic Direction Finder		
18. Dual Global Navigation Satellite System		
19. Heads Up display (NVIS compatible)		
20. Helicopter Terrain Awareness System		
21. Inertial Navigation Systems (x3)		
22. Integrated electronic flight, navigation, and engine instrumentation displays		
23. Iridium satellite Flight Following System		
24. Performance-Based Navigation system		
25. Radio Direction Finder		
26. Traffic Alert and Collision Avoidance System		
27. VFR and IFR moving map display		
28. Weather radar		

Table 8: Polar Helicopter Equipment Pricing

Polar Helicopter Item Description	Quantity	Cost Please indicate the currency
Safety Equipment		
29. Automatic Deployable 406 MHZ Emergency Locator Beacon		
30. Cockpit Voice Recorder		
31. Externally mounted life raft(s), suitable for the seating capacity of the aircraft		
32. Helicopter Emergency Egress lighting		
33. Helicopter floatation system		
34. Weather radar		
Mission Equipment		
35. Cargo hook - long line remote release mechanism		
36. Cargo hook suspension system		
37. Electric dual hoist system		
38. Electro-Optical Infrared (EO/IR) 4-axis stabilization camera system		
39. External load weight display system located in the cockpit		
40. External spotlight - NVIS compatible, pilot controlled		
41. Provisions to secure one medevac stretcher in the cabin during flight operations		
42. Retractable desktop work station located in the cabin		
43. Vertical reference door or window to facilitate vertical reference long line slinging		
Communications		
44. P25 compliant digital FM radio		
45. Satellite internet system		
46. Two independent VHF air ground communications systems		
47. Voice activated controls for communication and navigation equipment		

Table 8: Polar Helicopter Equipment Pricing

Polar Helicopter Item Description	Quantity	Cost Please indicate the currency
48. WIFI based satellite internet system		
49. Controller Pilot Data Link - Future Air Navigation Systems with DATALINK		
Additional Equipment		
50. Recommend Special Tools and Test Equipment		
51. Recommended Spare Parts Kit		
Warranty		
52. Warranty Package		

Table 9: Pilot Training Course Pricing

Polar Helicopter Pilot Training	Cost per student
53. Pilot Course Description -	
54. Pilot Course Description -	
55. Pilot Course Description -	
56. Pilot Course Description -	
57. Pilot Course Description -	
58. Pilot Course Description -	
59. What would the escalation rate be for the cost of pilot training in subsequent years?	

Table 10: Aircraft Maintenance Engineer (AME) Training Course Pricing

Polar Helicopter AME Training	Cost per student
60. AME Course Description -	
61. AME Course Description -	

Table 10: Aircraft Maintenance Engineer (AME) Training Course Pricing

Polar Helicopter AME Training	Cost per student
62. AME Course Description -	
63. AME Course Description -	
64. AME Course Description -	
65. AME Course Description -	
66. What would the escalation rate be for the cost of AME training in subsequent years?	

Table 11: Polar Helicopter In-Service Support Pricing

Polar Helicopter In-Service Support	Hourly Rate
67. Field Service Representative – Maintenance	
68. Field Service Representative - Training	
69. Other suggested Labour Categories and Rates	
70. Planned annual labour hours for predicted maintenance years 1 - 10	# of hours
71. Planned annual labour hours for predicted maintenance years 11 - 20	# of hours
72. Planned annual labour hours for predicted maintenance years 21 - 30	# of hours
73. Repair & Overhaul (R&O) costs years 1 - 10	
74. Repair & Overhaul (R&O) costs years 11 - 20	
75. Repair & Overhaul (R&O) costs years 21 - 30	
76. Annual Parts Replenishment years 1-10	
77. Annual Parts Replenishment years 11-20	
78. Annual Parts Replenishment years 21-30	
79. In-Service Support – Other expenses	
80. In-Service Support activities (shore-based) for the duration of the helicopter lifecycle (30 years). Please include supporting documentation with the response.	

Table 12: Project Management Deliverables Pricing

Polar Helicopter Project Management Deliverables	Unit Cost
81. Project Management Plan	
82. Integrated Master Plan	
83. Contractor Work Breakdown Structure	
84. Integrated Master Schedule	
85. Data Management Plan	
86. Risk Management Plan	
87. Risk Register	
88. Systems Engineering Management Plan	
89. Equipment Management Plan	
90. Systems Compliance Matrix	
91. Quality Management Plan	
92. Configuration and Change Management Plan	
93. Human Resources Plan	
94. Environment Health and Safety Management Plan	
95. Integrated Logistics Support Plan	
96. Initial Sparing Documentation	
97. Sparing Analysis Report	
98. Obsolescence Management Plan	
99. Kick-off Meeting	
100. Progress Review Meetings (Quarterly)	
101. Technical Review Meetings (Monthly)	
102. Integrated Logistics Support (ILS) Review Meetings (Monthly)	
103. Meeting agenda	

Table 12: Project Management Deliverables Pricing

Polar Helicopter Project Management Deliverables	Unit Cost
104. Meeting minutes	
105. Action Item Register for all meetings and reviews	
106. System Requirements Review	
107. Preliminary Design Review	
108. Critical Design Review	
109. Test Readiness Review	
110. System Verification Review	
111. Production Readiness Review	
112. ILS – Initial Provisioning Conference	
113. Monthly Progress Reports	
114. Initial Software Licensing	
115. Annual Software Renewals	
116. Acceptance Test Flight Activities	
117. Training Plans (if applicable)	
118. Helicopter Delivery to Canada (Location yet to be determined)	

Table 13: Integrated Logistics Support Items Pricing

Polar Helicopter Integrated Logistics Support Items	Quantity	Cost
119. Flight Manuals (English only) – Electronic Format	1 per aircraft	
120. Maintenance Manuals (English only) - Electronic Format	1 per aircraft	
121. Manuals for installed equipment (English only) - Electronic Format	1	
122. Helicopter Desk Model	6	
123. Helicopter Technical Drawings	1	

Table 14: Additional Items

Additional items recommended:	Quantity	Cost
124.		
125.		
126.		
127.		

11. Questions to Industry – Economic Benefits

The Industrial and Technological Benefits (ITB) Policy, including Value Proposition (VP), may apply to this procurement. The ITB Policy requires companies to undertake business activity in Canada equal to the value of the contract they have won. The ITB Policy leverages defence and CCG procurements to contribute to jobs, innovation and economic growth across the country.

As part of the ITB Policy, bidders will submit an economic proposal to Canada, called a VP. The VP may include work to support the growth of the Canadian Defence Industry, as well as activities in Supplier Development, Research and Development, Skills Development and Training and Exports. The VP approach may also seek to drive commitments in Direct Work, which is work directly related to the project.

For more information on the ITB Policy, consult the ITB website:

<https://ised-isde.canada.ca/site/industrial-technological-benefits/en>.

Please consider how you might engage Canadian capabilities within your solution for the Polar Helicopter procurement in your responses to the following questions:

- 11.1. How does your company maintain a presence in Canada? What specific in-country capabilities or facilities has your company established that can be leveraged for economic benefits?
- 11.2. Does your company have any plans to expand these capabilities and/or facilities within Canada?
- 11.3. What is the estimated level of Direct Canadian content of your proposed platform for the Polar Helicopter Project?
- 11.4. ISED has identified several Key Industrial Capabilities (KICs) that may be applicable to the Polar Helicopter procurement: Aerospace Systems and Components, Defence Systems Integration, In-Service Support and Advanced Materials. Are there any that are absent from this list that your company specializes in and that can add economic value for Canada?
- 11.5. What supply partnerships with Canadian industry does your company have that could maximize Canadian industrial participation?

- 11.6. What Research and Development (R&D) activities would meaningfully contribute to your company? What kinds of opportunities are there to enhance R&D in Canada directly or indirectly related to the Polar Helicopter Project?
- 11.7. What skills or capabilities does your workforce need to support your company's growth? Does your organization have any skills and training opportunities that could include indigenous or underrepresented groups?
- 11.8. Are there any opportunities to leverage an Export requirement through the VP approach on this project?
- 11.9. Is there any other information you wish to add that may be useful for Canada when developing our ITB/VP approach for the Polar Helicopter Project?