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Title - Sujet INTERIM ICEBREAKING AND TOWING	
Solicitation No. - N° de l'invitation F7017-160056/A	Date 2016-11-16
Client Reference No. - N° de référence du client F7017-160056	GETS Ref. No. - N° de réf. de SEAG PW-\$\$MB-003-26062
File No. - N° de dossier 003mb.F7017-160056	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-02-27	
Time Zone Fuseau horaire Eastern Standard Time EST	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Aubin, Marc A.	Buyer Id - Id de l'acheteur 003mb
Telephone No. - N° de téléphone (873) 469-4989 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein Précisé dans les présentes	

Instructions: See Herein

Instructions: Voir aux présentes

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**INTERIM ICEBREAKING AND TOWING CAPABILITY
REQUEST FOR INFORMATION AND INDUSTRY CONSULTATION**

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Section 1 – RFI Process/Instructions

Provision of an Interim Icebreaking and Towing Capability for the Canadian Coast Guard – Request for Information and Industry Consultation

1. Objective

- a. The Department of Fisheries and Oceans (DFO) with the assistance of Public Services and Procurement Canada (PSPC) intends to consult industry to determine commercially available options to:
 - i. Deliver an interim icebreaking capability¹ in order to address potential icebreaking capacity² gaps for the Canadian Coast Guard (CCG) on the East Coast (wintertime operations in southern Canada) and in the Arctic (summertime operations in the Arctic navigable season).
 - ii. Deliver an interim emergency towing³ capability to ensure the CCG can respond to marine incidents that may occur in regions at risk due to concentration of marine traffic and/or cargo involved. These areas include, but are not limited to, the Gulf of St-Lawrence, the Atlantic and Pacific coasts including the Juan de Fuca strait and mid to northern BC coast.
- b. The Government of Canada is seeking information regarding the potential pricing and availability of interim measures to provide icebreaking and towing services. It also seeks to understand how the proposed solutions by Industry might provide economic benefits and support to the shipbuilding and broader marine industry in Canada. Consistent with the Buy-in-Canada Shipbuilding Policy, it is the Government of Canada's intent that the repair, maintenance and refit of vessels will be conducted in Canada.

¹ Capability in this document refers to a vessel's or the CCG Fleet's ability to conduct missions and support programs; in essence what it can do.

² Capacity in this document refers to how much of an activity can be done. For instance, the CCG fleet has multiple capabilities (icebreaking, support to Search and Rescue, Aids to Navigation and other programs) but it has a fixed capacity to conduct any of those programs at any single point of time.

³ The capability to render assistance to vessels in difficulty, distressed or disabled, in order to take them under tow, and in so doing, mitigating the risk of harm to human lives and the marine environment. This includes fully laden container ships (carrying up to 11,000 TEU).

2. Background

Icebreaking

- a. The Canadian Coast Guard (CCG) currently has two (2) Heavy Ice Breakers (HI), four (4) Medium Icebreakers (MI), and nine (9) Multi-Task Light Icebreakers in its inventory. The Coast Guard deploys these vessels in Canada's Arctic waters during the late-June to mid-November period (the Arctic season), and South of 60° Latitude from the December to May period (the Southern season). The vessels are based in Quebec City, Quebec; Dartmouth, Nova Scotia; Victoria, British Columbia and Argenticia and St. John's, Newfoundland and Labrador.
- b. While operating in the Arctic, the primary functions for the icebreakers include conducting ice escort, supporting northern resupply, providing a platform for scientific research and delivering CCG programs such as Aids to Navigation and Search and Rescue. Once these vessels return to port after Arctic operations, they undergo maintenance and deploy for Southern icebreaking operations throughout Eastern Canada, the St. Lawrence River and the Great Lakes from December until early May. During this period, the icebreakers provide vessel escort, route assistance, harbour breakouts, flood control and ice reconnaissance services for a variety of commercial shipping, fishing and public transportation activities. Again, the icebreakers also support other CCG programs such as Aids to Navigation, Environmental Response, Fisheries Enforcement, Maritime Security and Search and Rescue. Upon completion of the Southern icebreaking season, these vessels undergo additional maintenance prior to deployment back to the Arctic.
- c. The Icebreaking capable vessels that are approaching the limit of their notional operational life and undergoing Vessel Life Extensions (VLEs) to keep them in service until replacement vessels can be built and delivered via the National Shipbuilding Strategy. The VLEs are scheduled to take place from 2017 until 2023, with up to three (3) vessels undergoing repairs each year. While efforts are being made to minimize work that would occur during an icebreaking season, the VLE work will remove some vessels from service for a significant period of time.
- d. Due to age and reduced availability of the icebreaking fleet, the Coast Guard anticipates that it may require additional icebreaking capacity provided by one (1) to five (5) Icebreakers (Heavy, Medium, or Light) at various times over the next number of years. Accordingly, the CCG must investigate potential bridging strategies to address potential gaps in service.

Towing

- a. On March 14, 2014, the M/V John 1, a 180-metre bulk carrier with 23 crew on board, experienced technical difficulties and lost power off the southwestern coast of Newfoundland. The vessel drifted close to shore until a tow line was attached by a Canadian Coast Guard vessel. No injury or marine pollution occurred. The tug Ryan

Leet that was engaged by the company was many hours away in Mulgrave, NS and was not able to make it to the John 1 before it went aground.

- b. On October 17, 2014, the M/V Simushir, a 134-metre cargo ship, carrying 400 tons of bunker oil, lost power 30 miles south of the Alaskan border, west of the Haida Gwaii archipelago. The Coast Guard ship CCGS Gordon Reid attempted to tow the M/V Simushir, breaking 3 tow lines in the heavy seas. A fourth tow line held for several hours until it also broke. The Alaska-based tug Barbara Foss, hired by the Simushir owners, transited from Prince Rupert, BC to assist the vessel and a significant incident was averted.
- c. The Simushir and John I incidents illustrate several gaps in Canada's emergency towing capacity in both the immediate and medium term, including limited industry capacity (particularly on the West Coast) and limitations to Coast Guard's capability to tow large vessels. Coast Guard has identified a potential requirement for one (1) to three (3) tow capable vessels in both the Pacific and Atlantic regions (including Juan de Fuca strait, mid to northern BC offshore coasts, Gulf of St-Lawrence, Atlantic offshore, etc...) to respond to marine incidents over the short or medium term.

3. Nature of this consultation

- a. This Request for Information and Industry Consultation is an initial step in examining the provision of service options available for the CCG. At this time, the focus of the consultations with Industry is to determine the commercial capability available, assess how quickly industry can start providing interim capability services and obtain estimates for the potential cost of delivering these services. This RFI is neither a call for tender nor a Request for Proposal (RFP). No agreement or contract will be entered into based on this RFI. The issuance of this RFI is not to be considered in any way a commitment by the Government of Canada (GC), nor as authority to potential Respondents to undertake any work that could be charged to GC. This RFI is not to be considered as a commitment to issue a subsequent solicitation or award contract(s) for the requirements described herein.
- b. This consultation will be a 3 Stage Process:

Stage 1 – Industry Day or Web-Ex teleconference. See Questions in Sections 2 and 3 of this document.

On 08 December 2016, an Industry Day will be held in Gatineau, Quebec. Potential Respondents that are interested in being present during the Industry Day are requested to send an e-mail confirmation to the Contracting Officer at marc.a.aubin@tpsgc-pwgsc.gc.ca. Additional information on the specifics of the Industry Day will be released to all interested suppliers.

Suppliers that are not able to attend the Industry Day meeting in person may request participation through a web conferencing service via WebEx. Suppliers that have shown preference in attending the Industry day via WebEx will subsequently be provided with an e-mail providing specific instructions.

- Initial response from the industry:

Initial responses to the questions listed in sections 2 and 3 of this RFI document are required for respondents to participate in stage 2 of this RFI. The initial response from the industry is to be provided 55 days following the RFI release date by e-mail to: marc.a.aubin@tpsgc-pwgsc.gc.ca.

Prior to providing an initial response, interested suppliers must notify the Contracting authority no later than Day 30 following the RFI release of their intention to provide an initial response in order to participate in the One-on-one stage of the RFI.

Please note that Respondents will be provided with the opportunity to modify their responses throughout the RFI period.

Stage 2 – One-On–One Meetings with Industry (Days 60 -70 after the RFI release).

The purpose of the one-on-one meetings between Canada and individual potential respondents is to go over the initial response of the subject respondent.

Depending on industry requests and suppliers' preferences, Canada may consider holding the one-on-one sessions in various locations across Canada.

Stage 3 – Final responses to the RFI.

The RFI responses must be submitted on or before February 27, 2017 14h00 EST to:

Marc Aubin
Public Services and Procurement Canada
Place du Portage III – 6 C2 32
11 Laurier Street
Gatineau, Quebec K1A 0S5
Tel: 873-469-4989
Marc.a.aubin@tpsgc-pwgsc.gc.ca

Respondents who did not participate in stages 1 or 2 of the RFI may still submit a response to the RFI.

- c. Throughout stages 1 and 2, the GC will receive questions from industry and post answers publicly on a website to be determined. Question sources will remain anonymous.
- d. 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 for budgetary and planning purposes as well as assist in developing options and drafting approval documents.

- e. Respondents are encouraged to identify, in the information they share with Canada, any information that they feel is proprietary or confidential. Canada will handle the responses in accordance with the Access to Information Act. Canada will not disclose proprietary or commercially sensitive information concerning Respondents or third parties, except and only to the extent required by law. For more information, please see <http://laws-lois.justice.gc.ca/eng/acts/a-1/>.
- f. Respondents are asked to identify if their response, or any part of their response, is subject to the Controlled Goods Regulations.
- g. Participation in this RFI is encouraged, but is not mandatory. There will be no short-listing of potential suppliers for the purposes of undertaking any future work as a result of this RFI. Similarly, participation in this RFI is not a condition or prerequisite for the participation in any potential subsequent solicitation.
- h. Respondents will not be reimbursed for any cost incurred by participating in this RFI. Responses to this RFI will not be returned to Respondents.
- i. Responses will not be formally evaluated. However, the responses received may be used by Canada to develop or modify their approach in addressing potential future requirements. Canada may, at its discretion, review all responses received by the RFI closing date. Canada may, at its discretion, review responses and or engage with industry after the RFI closing date.
- j. Respondents are encouraged to respond to any or all of the requirements identified herein. In the case where a response is provided to both the icebreaking and towing requirements, separate proposals and cost information are requested. If a combined solution is contemplated, then an alternate proposal can also be provided with a combined cost structure, clearly articulating the potential cost savings that would result from a combined solution.
- k. A review team composed of representatives from CCG, PSPC and ISEDC will review the responses. Canada reserves the right to hire any independent consultant, or use any GC resources that it considers necessary to review any response. Not all members of the review team will necessarily review all responses.

4. Information requested

- a. Industry is requested to reply to the questions in Sections 2 and 3 for Canada's consideration during the consultation process. Initial feedback on these questions is requested 5 days prior to the one-on-one meetings with Industry, with final responses due on the closing date of the RFI.

- b. Respondents are asked to answer these questions in the context of the material presented and or provide requested information. It is requested that respondents use the format provided in Annex D. Respondents may also provide any other information they feel will assist Canada in determining options on the way forward.

Section 2 – RFI Technical Questions

1. Background

- a. The purpose of this RFI is to seek industry input as to what options exist or could be developed to assist CCG in delivering its services to Canadians in the areas of icebreaking and towing. The questions are not meant to limit industry's proposals or approaches in providing interim measures and are rather framed to allow CCG to better understand what is possible, in what timeframe, at what cost and under which considerations.
- b. To provide further context on CCG's requirement, several Annexes are attached. Annex A provides background information on CCG icebreaking operations and towing requirements. Annex B provides a template of capabilities that should be used to describe the proposed solution. Finally, annex C describes the multiple programs that CCG delivers with its vessels. Although the primary requirements are icebreaking and towing, CCG is also interested in understanding how any proposed solution could support other CCG program areas.
- c. For the purpose of this RFI, the anticipated provision of service duration for icebreaking interim measures is notionally over a five-year period with a potential requirement for option years that could be exercised for services extending up to 15-20 years in total (to understand the cost dynamics of longer service durations).
- d. With regards to towing, the anticipated duration for the provision of services is approximately four to five years with a potential requirement for option years that could be exercised for services extending up to 15-20 years in total (to understand the cost dynamics of longer service durations).
- e. In both cases, the provision of service options could be continuous/on-going or they could be for short term periods provided via a daily rate or other costing mechanism.
- f. Respondents are requested to use the Annex D template for their response.

2. Questions

a. For each solution proposed:

1. Describe your proposed solution(s) that address the CCG icebreaking and/or towing requirements in whole or in part. In doing so, please be specific with regard to:
 - a. Capabilities of the proposed solution (as per annex B);
 - b. CCG programs the solution is able to support (as per annex C);
 - c. Service offering approach (i.e. vessel available on a task basis, daily rate, time based lease, other...);
 - d. Exclusions (i.e. not available for specific periods, not able to conduct specific roles such as buoy tending, etc...); and
 - e. Any other information regarding the capabilities of your solution that you deem relevant.

2. Provide the following financial details:
 - a. Rough Order Magnitude (ROM) cost for the provision of the service(s) (in \$CAD);
 - b. Identify the cost-drivers associated with this solution;
 - c. Describe the basis of payment (i.e. fixed annual cost plus variable cost of operation, task based on a range of services and usage, etc...);
 - d. Describe any alternative approaches (i.e. xx number of years with options, fixed duration from the start, other...) for the provision of service(s) that would optimize costs; and
 - e. Include any other financial data that you deem relevant.

3. Provide the following implementation and in-service information:
 - a. Implementation plan and schedule;
 - b. Identify whether the solution could support progressive implementation (i.e. icebreaking escort and SAR at first, then support to Aids to Navigation and Environmental Response programs soon afterwards) to allow the service provider with a gradual ramp up approach and/or earlier delivery;
 - c. If applicable, and to determine what requirements are achievable within other timeframes, please identify any additional services that are achievable and under what additional rough-order-magnitude cost and timeframe(s);
 - d. Maintenance approach/plan (including domestic capacity and Integrated Logistics considerations);
 - e. Crewing approach;
 - f. Training requirements for the crew; and
 - g. Any other implementation and in-service data that you deem relevant.

4. Address the following considerations:
 - a. Identify the risks associated with developing/implementing this solution and their attendant mitigation strategies;
 - b. Identify issues that may affect industry's ability to provide the services in a timely and cost effective manner, once implemented, and the proposed mitigation strategies that could decrease the impact on time and cost;
 - c. Identify and discuss any and all other aspects that would need to be considered and your recommended approach in that regard (i.e. liability and insurance, security, environmental issues, berthing requirements, controlled goods, other issues);
 - d. Identify how indigenous communities and their participation could be factored into your proposed solution;
 - e. Provide any case studies and/or business models that could assist Canada in validating your proposed solution; and
 - f. Provide any other information that may assist the Government of Canada in understanding your proposal.

Section 3 - Industrial Benefits to Canada

1. Buy-in-Canada Shipbuilding Policy

- a. The Buy-in-Canada Shipbuilding Policy states that “The government will continue to procure, repair, and refit vessels in Canada subject to operational requirements and a competitive domestic marketplace”.
- b. This longstanding policy is a foundational element of the National Shipbuilding Strategy and is a significant support measure Canada uses to generate economic activity and sustain domestic shipbuilding, ship repair and broader marine industry capabilities.
- c. Canada wishes to ensure that its investments in shipbuilding and industrial marine-related goods and services generate marine industrial benefits to Canada. Under the Buy-in-Canada Shipbuilding Policy, interested firms are requested to consider industrial benefits to the Canadian shipbuilding and industrial marine industry to meet the policy’s objectives.
- d. The Buy-in-Canada Shipbuilding Policy will be taken into consideration during future related procurement decisions.
- e. More details on the Shipbuilding and Industrial Marine Policy Framework can be found on the Shipbuilding and Industrial Marine website by following this link:
http://www.ic.gc.ca/eic/site/sim-cnmi.nsf/eng/h_uv00053.html

2. Question on Buy-in-Canada

- a. For each solution(s) proposed:
 1. Please define what elements of your solution(s) to Canada’s potential interim measures would provide economic and industrial benefits to Canada (e.g. hull, modifications, repair, ongoing maintenance over the life of the vessel, refit, overhaul, etc.).
Expectation: Respondents may explain how they can maximize the amount of business activity they undertake in Canada when presenting their solution(s) for Canada’s potential interim Icebreaking and/or towing capability.

3. Industrial and Technological Benefits including Value Proposition

Background

- a. As indicated in the Request for Information (RFI) for the potential provision of interim icebreaking and towing capabilities, Canada may apply the Industrial and Technological Benefits (ITB) Policy, including Value Proposition. More details can be found on the ITB Policy with Value Proposition website by following this link:
http://www.ic.gc.ca/eic/site/086.nsf/eng/h_00005.html
- b. Canada wishes to ensure that its investments in defence and security-related goods and services generate economic benefit to Canada. These economic benefits are required to have long-term and high value impacts on Canadian industry in advanced technology areas. Under the ITB Policy, interested firms will be requested to consider benefits to Canadian industry equal to 100% of the contract value, measured in Canadian Content Value, to meet the following objectives:
 - i. **Defence Sector:** One objective of the ITB Policy is to ensure that defence procurement supports the economic development and long-term sustainment of Canada's Defence sector, including naval and commercial marine goods and services.
 - ii. **Supplier Development:** The development of supplier productivity and competitiveness among Canadian-based suppliers is a second objective of the ITB Policy.
 - iii. **Research and Development (R&D):** A third objective of the ITB Policy is to encourage innovation, as R&D can position Canadian companies to move up the value chain and capture market opportunities. R&D can include design and production engineering.
 - iv. **Exports:** A fourth ITB objective is to strengthen Canada's success in tapping traditional and non-traditional export markets to share in long-term jobs and growth that result from success in foreign markets.
 - v. **Regional Development:** The regional development objectives are to encourage long-term quality improvements to the capability, capacity, international competitiveness and growth potential of companies in those Canada regions where specific initiatives are in place to promote economic growth and diversification through procurement.
 - vi. **Small and Medium Business (SMB):** It is an objective of Canada to encourage the participation of SMB as suppliers on major federal procurements and to increase their competitiveness and export market access. Canadian SMB, or firms with fewer than 250 employees, should have the opportunity to participate on the potential requirement.

4. Questions on Industrial and Technological Benefits including Value Proposition

a. Defence Sector

1. Please respond with how your company might incorporate Canadian industry directly into your solution(s) to meet Canada's potential interim icebreaking and towing capabilities. How might your company engage Canadian industry in areas not related to your proposed solution(s) (e.g., defence and security-related marine or commercial marine sectors)? To what extent might your firm submit, at bid time, identified transactions, measured in Canadian Content Value, in the defence and security sector as a percentage of bid price?

Expectation: Respondents may explain how they will maximize the amount of business activity they undertake in Canada directly related to the proposed solution(s) and/or in Canada's defence and security-related marine or commercial marine sectors. (Based on Defence Sector evaluation criteria in the Value Proposition Guide)

b. Canadian Supplier Development

2. Please address how your company might work with Canadian suppliers outside of your organization, including Canadian SMB, and in what areas. Would these be related to the potential interim capabilities for icebreaking and towing, or would these be in other industrial areas?

Expectation: Respondents may explain how they propose to offer work to, and make investments in suppliers in Canada. Also, the contractor may have a requirement to involve Canadian SMB in carrying out activities equal to 15 percent of their ITB obligation. (Based on the Canadian Supplier Development evaluation criteria in the Value Proposition Guide)

c. Research and Development (R&D)

3. Please explain what research and development (R&D) with Canadian industry or Canadian publicly-funded post-secondary institutions may be undertaken in the defence and security-related marine or commercial marine sectors.

Expectation: Respondents may explain how they propose to make R&D investments in Canada. R&D includes innovation performed in defence and security-related marine or commercial marine sectors and other sectors of the economy, and design and production engineering directly for capabilities proposed. (Based on the Research and Technology Development evaluation criteria in the Value Proposition Guide)

d. Exports

4. Please address what export opportunities may come to Canada directly and indirectly related to the potential solution(s) for interim icebreaking and towing.

Expectation: Respondents may explain how an international export strategy as part of their Value Proposition, could leverage they and their suppliers' participation in the interim Icebreaking and towing solution(s) into future export success. (Based on the Exports evaluation criteria in the Value Proposition Guide)

Annex A – CCG Background

Introduction

1. The Canadian Coast Guard (Coast Guard, Agency) is a vital organization that delivers an important suite of marine services on behalf of both the Government of Canada and Canadians – all with the aim of ensuring the safety, accessibility, and security of the nation's oceans and waterways. It does so through the deployment and use of the federal government's civilian marine Fleet. The Coast Guard Fleet is comprised of over one hundred large and smaller vessels and more than three quarters of Coast Guard's large vessels have been operating in excess of 25 years. This has led to several challenges including supportability and obsolescence issues.
2. The Government of Canada has acknowledged the need to renew Coast Guard's Fleet and federal funding injections for recapitalization began in 2005. Over the past nine years, the Agency has received some \$7 billion to replace several of the Fleet's large and small vessels, helicopters, small craft and barges, and to extend the life of, repair and refit others. In tandem with investments to renew Coast Guard's Fleet that began in 2005, in 2010 the federal government announced the National Shipbuilding Procurement Strategy (NSPS). It would facilitate a sustainable return to the industry and stimulate economic development across the country. Non-combat vessels (including Coast Guard vessels and two Navy Joint Support Ships) would be built by Vancouver Shipyards (a company of Seaspan Shipyards).
3. Rebuilding the shipbuilding industry's capacity is a monumental undertaking, and gaps in between ship retirement and ship delivery are a potential risk that must be mitigated. If delays were to occur, they would place additional stress on existing ships and add to Coast Guard's costs as it considers strategies to maintain the reliability and extend the operational life of existing vessels.
4. Coast Guard must plan accordingly. The aging vessels are being scheduled for Vessel Life Extension work and the nature of these repairs means they must be removed from operation for prolonged periods while the work is carried out. For many of the ships in question, no back-up options are available. Program delivery will have to be risk managed and alternatives investigated to enable the planned and deliberate recapitalization of the CCG large vessel fleet.
5. In the interim, there are two specific capabilities that are especially at risk and may require additional capacity through interim measures: icebreaking and towing.

Arctic Icebreaking

6. The Canadian Coast Guard annually deploys five icebreakers that support marine navigation and other programs in the Canadian Arctic, with a sixth icebreaker dedicated to scientific research (CCGS *Amundsen*). The icebreakers typically operate in the Arctic from late June to early November each year.

7. During this period, these vessels perform a variety of roles in support of traditional Coast Guard services and Government of Canada priorities including but not limited to:
 - a. providing ice information (in partnership with the Canadian Ice Service) and ice routing advice to other vessels in the Arctic;
 - b. escorting individual vessels and convoys, freeing ships beset in ice, and maintaining shipping channels and tracks through ice;
 - c. harbour breakout; and
 - d. providing supplies for Arctic communities when commercial services are not available (Arctic Sealift).
8. Coast Guard's annual operations plan, which is designed to facilitate marine services in Canada's north, normally begins in late June, and is usually completed by the end of October or early November. This four-month window of navigability sees the staggered deployment and return of five Heavy and Medium icebreakers, as well as a High Endurance Multi-Task Vessel to the Arctic. .
9. As the ice recedes in the Arctic, the shipping season is extended and has already resulted in vessel traffic increases. From an operational service perspective, the need for icebreaker vessel support for maritime safety, security, science, environmental response and icebreaking will continue but is growing and evolving, especially when it pertains to the Arctic. The removal of ships for prolonged maintenance will undermine existing program delivery and hamper the organization's ability to provide services to emerging clients and stakeholders in the region.

Southern Icebreaking

10. The icebreaking program is delivered in southern Canada from mid-December to late May depending on conditions in some service areas such as the coast of Labrador. This program activity includes escorting ships through ice-covered waters, freeing vessels beset in ice, conducting harbor breakouts, supports environmental protection (by minimizing damage to vessels navigating in ice), providing advice and ice information and reducing the risk of property damage by means of flood control on the St. Lawrence River through monitoring, prevention and breaking up of ice jams.
11. The Canadian Coast Guard's icebreaker fleet plays a fundamental role in making navigation (and trade) possible during Canada's long and challenging winters. This is particularly true in potentially dangerous and ice-laden areas such as the north-east coast of Newfoundland and the Gulf of St. Lawrence (which are often inundated with ice cover that is two meters thick and has ridges that are more than six meters high), and the St. Lawrence River (where large sheets of ice floes can be dislodged from the shore, thereby endangering shipping and forming ice jams). Southern icebreaking operations are currently provided by four classes of vessels capable of breaking ice: Heavy Icebreakers (HIs), Medium Icebreakers (MIs), High Endurance Multi-tasked Vessels (HEMTVs) and Medium Endurance Multi-tasked Vessels (MEMTVs) constituting a total of 14 icebreakers.

12. To help guide the decision making process for deployment, the following applicable priorities are utilized:
- a. All distress and emergency situations take precedence;
 - b. Service requests from ferry services provided in accordance with the Terms of Confederation/Union will be given priority; other ferry services will receive priority as deemed appropriate by the CCG;
 - c. Escort for ships with vulnerable cargo (pollutants, dangerous goods, perishables) and vessels transporting cargo which is vital to the survival of communities;
 - d. Harbour breakouts;
 - e. Marine traffic and fishing vessels.
13. The CCG icebreakers also deliver a multitude of other Coast Guard programs and as such, the icebreaking capacity gap will have an impact on Coast Guard's ability to sustain all the other mandated programs that rely on these assets to support their deliverables. Solutions that can provide support to icebreaking and other programs are considered desirable.

Towing requirement

14. Emergency tow operations are intended to mitigate risk where a ship has become disabled, to limit jeopardy to crew, other vessels or mitigate risk of marine pollution. Examples where emergency towing could assist include situations where a ship is no longer under control (i.e. unable to maneuver or unable to proceed under its own power).
15. A Study on Emergency Towing Capability commissioned by Transport Canada for the Tanker Safety Expert Panel in 2013, concluded that there are significant gaps in towing capability on the West Coast and Arctic regions, where there is currently no offshore oil and gas development, and less pronounced gaps in Newfoundland and Nova Scotia.
16. Addressing the issue of emergency tow capacity will respond to Canadians' expectations that the Canadian Coast Guard deliver on its mandate to protect lives at risk and the marine environment by increasing its capacity to respond to large vessels that suffer an unplanned loss of navigational control.
17. Proposals by Industry to address this gap should also include sufficient information to determine whether the solution provides capabilities that could support other CCG programs.

Annex B – Capability Description

General Description	<ul style="list-style-type: none"> • Beam • Draft • Length
Regulatory and Classification items	<ul style="list-style-type: none"> • Does it meet Canadian Regulatory requirements (current and anticipated) • Ice class (in terms of Polar Class)
Design Speed	<ul style="list-style-type: none"> • In open water and in what sea-state • Ice-covered waters: capability to maintain a continuous speed of xx knots in level first year ice of xx centimetres thickness
Manoeuvring and Station Keeping	<ul style="list-style-type: none"> • What propulsion arrangement (i.e single propeller, twin propeller, azipod, etc...) • Other equipment for manoeuvring and station keeping (i.e. bow thruster, Dynamic Positioning, etc...)
Endurance and Range	<ul style="list-style-type: none"> • Endurance (xx days at sea). • Potable Water capacity • Minimum Range (i.e. xx Nautical Miles @ xx knots)
Crew and Accommodations	<ul style="list-style-type: none"> • Number of crew (xx officers and xx crew) • Cabin arrangements (xx single cabin, xx double cabins or other arrangements including supernumerary berths)
Program Capabilities	<ul style="list-style-type: none"> • Working deck area • Crane(s) capable of covering what portion of working deck areas (fwd and/or aft) • Capable of launching and recovering daughter vessels (what size RHIB or barge), in what sea state • Cargo Hold capacity (i.e. for Environmental Response gear and other use) • Able to land, refuel and hangar what size helicopter if applicable • Space for first aid and long term medical care (i.e. for multiple casualties) • Towing capability (xx tonnes of Bollard Pull) • Ancillary equipment for towing (i.e. Towing winch, dual winches, type of towline, spare components, etc...) •
Other capabilities	<ul style="list-style-type: none"> • Additional information as applicable

Please note: This table is meant to ensure a minimum of information is provided to allow an understanding of the capabilities put forward by industry. It is not meant to be restrictive and industry should provide as much detail as possible regarding the options proposed. Some items, such as ice class, may or may not apply to proposals regarding the towing capacity gap.

Annex C – CCG Programs

Options provided by Industry should also include comments on their capability in supporting other CCG programs. These are summarized below.

Mission	Description
<p>1. Search and Rescue</p>	<p>The Canadian Coast Guard leads the maritime component of the federal SAR system, as mandated to the Minister of Fisheries and Oceans in the <i>Oceans Act</i>. Services are provided to coordinate SAR operation on the water, communicated with ships at sea, and provide vessels and crew to respond to SAR incidents.</p> <p>The waters for which SAR coverage is provided start 800 nautical miles offshore in the Pacific, 1,000 nautical miles into the Atlantic, and stretch all the way to the North Pole. The SAR system covers an area of approximately 5.3 million square kilometres; this diverse area is substantially larger than internationally defined territorial seas.</p> <p>While there is a distinct group of primary SAR vessels vested in the Lifeboat stations located along the coast throughout Canada, all CCG vessels are multi-tasked to provide SAR response in addition to their other departmental programs.</p>
<p>2. Icebreaking</p>	<p>The Icebreaking program of CCG provides icebreaking and related services to facilitate the informed, safe and timely movement of maritime traffic through and around ice-covered Canadian waters for the benefit of industry and communities.</p> <p>The icebreaking program is delivered in southern Canada from mid-December to late May and in the Arctic from June to November. The CCG fleet provides specialized and multi-tasked vessels and trained crews in support of this vital program.</p> <p>This program activity includes escorting ships through ice-covered waters, freeing vessels beset in ice, conducting harbour breakouts, supports environmental protection (by minimizing damage to vessels navigating in ice), providing advice and ice information and reducing the risk of property damage by means of flood control on the St. Lawrence River through monitoring, prevention and breaking up of ice jams.</p> <p>The Icebreaking program also contributes to Arctic sovereignty through the re-supply of northern communities, providing support to other government agencies and organizations and maintaining a visible federal government marine presence in the Canadian North. This is normally performed by a dedicated fleet of medium and heavy icebreakers, but during emergency or surge requirements, multi-task vessels have been deployed for specialized missions or to fill gaps in service levels.</p>

<p>3. Environmental Response</p>	<p>The Canadian Marine Oil Spill Preparedness and Response Regime is built on a government/industry partnership. Industry provides Canada's regulated primary capacity to clean up oil spills. The Coast Guard must be prepared at all times to act as a backstop, as the lead federal agency responsible for ensuring an appropriate response to all ship-source and mystery source pollution incidents in waters under Canadian jurisdiction</p> <p>CCG vessels have the capability to deploy pollution countermeasures equipment, maintained by the program, if required to respond to a marine pollution incident. Vessels tasked to the Arctic carry pollution countermeasures equipment and trained crews on board in the event a response to a marine pollution incident is required north of 60N.</p>
<p>4. Aids to Navigation</p>	<p>The Aids to navigation program involves the provision of short-range marine aids numbering over 17,000, including visual aids (fixed aids, lighthouses and buoys), aural aids (fog horns), radar aids (reflectors and beacons) and long-range marine aids, including electronic aids, such as the Differential Global Positioning System (DGPS). All these services provide a direct benefit to mariners by contributing to safe, accessible and effective vessel transit in Canadian waters.</p> <p>The CCG fleet operates a variety of large and small nav aids and multi-tasked vessels and helicopters to place, recover and maintain this network of navigational aids. These aids may be year-round and/or seasonal and placement of the floating aids to navigation often requires the vessel servicing the aids to be in positions close to shoals, rocks and reefs.</p>
<p>5. Maritime Security</p>	<p>Canadian Coast Guard (CCG) involvement in maritime security is based on its obligation under the Oceans Act to provide ships, aircraft and other maritime services in support of federal maritime priorities. In support of national security, CCG uses its vessel fleet, on-water expertise and extensive vessel monitoring systems to:</p> <ul style="list-style-type: none"> • Enhance awareness of possible maritime security threats; • Support on-water law enforcement and responsiveness; and • Enhance collaboration with departments and agencies throughout the maritime security community
<p>6. ITS / MCI Construction, Installation, Maintenance and/or Repair</p>	<p>The CCG Shore-based Asset Readiness (SBAR) program ensures CCG's non-fleet assets (worth \$1.5 billion) are available and reliable to support delivery of CCG programs. These non-fleet assets include both fixed and floating aids, such as visual aids (e.g. fixed aids and buoys), sound aids (e.g. fog horns), radar aids (e.g. reflectors and beacons) and long-range marine aids, namely the Differential Global Positioning System (DGPS) as well as electronic communication and navigation systems and over 300 radio towers.</p>

	<p>The CCG Fleet supports ITS with ships so that predictive, preventative and corrective maintenance actions required to preserve or restore the operating capability and reliability of assets can be achieved, especially in remote areas.</p>
7. Conservation and Protection	<p>Coast Guard support to the C&P program is provided from specialized fisheries patrol vessels in the near-shore and offshore areas, as well as from multi-tasked CCG vessels or helicopters, when requested. The CCG fleet personnel provide support to armed boarding parties, coordination and planning support to provide cost effective program delivery, personnel safety support to fisheries officers, monitoring support, and support to special operations.</p> <p>The areas of coverage for this program range from inshore freshwater rivers and lakes to the edge of the continental shelf and beyond. Operations vary from year-round to seasonal and take place in all areas, including those in and near ice-infested waters (for the seal hunt).</p>
8. Science (Oceans Science)	<p>The CCG fleet provides trained crews on board specialized and multi-tasked vessels in support of the departmental Science program. In most cases, Science program specialists and unique program equipment are required for specific missions but there are occasions where CCG vessels and their crews offer a source of unique capabilities and expertise often vital to the science program.</p> <p>Specific examples of the types of assistance provided by the CCG fleet include research trawlers and fishing vessels to conduct stock assessments, hydrographic survey vessels and launches, water column research, seismic work, oceanographic vessels, and icebreaking capability to support science in ice and climate change research. Areas covered by these services range from inshore areas, to the high Arctic, to the outer limits of Canada's jurisdiction.</p>
9. CHS	<p>The Canadian Hydrographic Service contributes to safety on Canadian waterways by undertaking hydrographic surveys from primarily Canadian Coast Guard vessels to measure, describe, and chart the physical features of Canada's oceans and navigable inland waters.</p> <p>CHS hydrographers are actively engaged in surveying and measuring Canada's inland navigable waterways to the edge of the continental shelf and beyond, the Great Lakes, and the Atlantic, Pacific and Arctic Ocean coasts.</p>
10. Support to Other Government Departments	<p>This program ensures that the federal civilian fleet meets the current and emerging needs and priorities of Canadians and Canada. As such, the program not only supports Coast Guard programs, the Department's science, fisheries, and aquaculture activities but also provides support to other federal departments that need on-water delivery to support their mandates.</p>

Annex D: Format/Template for respondents to provide responses.
 Complete an individual template for each solution proposed.

TITLE OF PROPOSED SOLUTION: _____	
Technical Questions	
Solution description	
Capabilities of the proposed solution (as per annex B);	
CCG programs the solution is able to support (as per annex C);	
Service offering approach (i.e. vessel available on a task basis, daily rate, time based lease, other...);	
Exclusions (i.e. not available for specific periods, not able to conduct specific roles such as buoy tending, etc...); and	
Any other information regarding the capabilities of your solution that you deem relevant.	

Financial details	
Rough Order Magnitude (ROM) cost for the provision of the service(s) (in \$CAD);	
Identify the cost-drivers associated with this solution;	
Describe the basis of payment (i.e. fixed annual cost plus variable cost of operation, task based on a range of services and usage, etc...);	
Describe any alternative approaches (i.e. xx number of years with options, fixed duration from the start, other...) for the provision of service(s) that would optimize costs; and	
Include any other financial data that you deem relevant.	
Implementation and in-service information	
Implementation plan and schedule;	
Identify whether the solution could support progressive implementation (i.e. icebreaking escort and SAR at first, then support to Aids to	

<p>Navigation and Environmental Response programs soon afterwards) to allow the service provider with a gradual ramp up approach and/or earlier delivery;</p>	
<p>If applicable, and to determine what requirements are achievable within other timeframes, please identify any additional services that are achievable and under what additional rough-order-magnitude cost and timeframe(s);</p>	
<p>Maintenance approach/plan (including Integrated Logistics considerations);</p>	
<p>Crewing approach;</p>	
<p>Training requirements for the crew; and</p>	
<p>Any other implementation and in-service data that you deem relevant.</p>	
<p>Other Considerations</p>	
<p>Identify the risks associated with developing/implementing this solution and their attendant mitigation strategies;</p>	

<p>Identify issues that may affect industry's ability to provide the services in a timely and cost effective manner, once implemented, and the proposed mitigation strategies that could decrease the impact on time and cost;</p>	
<p>Identify and discuss any and all other aspects that would need to be considered and your recommended approach in that regard (i.e. liability and insurance, security, environmental issues, berthing requirements, controlled goods, other issues);</p>	
<p>Identify how indigenous communities and their participation could be factored into your proposed solution;</p>	
<p>Provide any case studies and/or business models that could assist Canada in validating your proposed solution; and</p>	
<p>Provide any other information that may assist GC in understanding your proposal.</p>	

Industrial Benefits to Canada	
Buy-in-Canada question	
Please define what elements of your solution(s) to Canada's potential interim measures would provide economic and industrial benefits to Canada (e.g. hull, modifications, repair, ongoing maintenance over the life of the vessel, refit, overhaul, etc.).	
Industrial and Technological Benefits Questions	
Please respond with how your company might incorporate Canadian industry directly into your solution(s) to meet Canada's potential interim icebreaking and towing capabilities. How might your company engage Canadian industry in areas not related to your proposed solution(s) (e.g., defence and security-related marine or commercial marine sectors)? To what extent might your firm submit, at bid time, identified transactions, measured in Canadian Content Value, in the defence and security sector as a percentage of bid price?	
Please address how your company might work with Canadian suppliers outside of your organization, including Canadian SMB, and in	

<p>what areas. Would these be related to the potential interim capabilities for icebreaking and towing, or would these be in other industrial areas?</p>	
<p>Please explain what research and development (R&D) with Canadian industry or Canadian publicly-funded post-secondary institutions may be undertaken in the defence and security-related marine or commercial marine sectors.</p>	
<p>Please address what export opportunities may come to Canada directly and indirectly related to the potential solution(s) for interim icebreaking and towing.</p>	
<p>Other Information</p>	
<p>Respondents may provide any other amplifying information as required.</p>	