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**RETOURNER LES SOUMISSIONS À:**

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1550, Avenue d'Estimauville

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Québec

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G1J 0C7

**INVITATION TO TENDER**

**APPEL D'OFFRES**

**Tender To: Public Works and Government Services  
Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Soumission aux: Travaux Publics et Services  
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici et sur toute feuille ci-annexée, au(x) prix indiqué(s).

**Comments - Commentaires**

**Vendor/Firm Name and Address**

Raison sociale et adresse du

fournisseur/de l'entrepreneur

**Issuing Office - Bureau de distribution**

TPSGC/PWGSC

601-1550, Avenue d'Estimauville

Québec

Québec

G1J 0C7

<b>Title - Sujet</b> Recommissioning DP4 - Amundsen	
<b>Solicitation No. - N° de l'invitation</b> F3756-18N044/A	<b>Date</b> 2018-05-15
<b>Client Reference No. - N° de référence du client</b> F3756-18N044	<b>GETS Ref. No. - N° de réf. de SEAG</b> PW-\$QCL-036-17397
<b>File No. - N° de dossier</b> QCL-8-41014 (036)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2018-06-28</b>	
<b>Time Zone</b> <b>Fuseau horaire</b> Heure Avancée de l'Est HAE	
<b>F.O.B. - F.A.B.</b> Specified Herein - Précisé dans les présentes <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input checked="" type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Gagnon, Mathieu	<b>Buyer Id - Id de l'acheteur</b> qcl036
<b>Telephone No. - N° de téléphone</b> (418) 649-2883 ( )	<b>FAX No. - N° de FAX</b> (418) 648-2209
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> Pêches et Océans NGCC Amundsen 101 boul Champlain Att. C/E QUEBEC Québec G1K7Y7 Canada	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

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

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Client Ref No. – N° de réf. du client  
F3756-18N044

Amd. No. – N° de la modif.  
File No. – N° du dossier  
QCL-7- 41014

Buyer ID – id de l'acheteur  
qcl 036

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## **PART 1 – GENERAL INFORMATION**

### **1.1 Introduction**

The bid solicitation and resulting contract document is divided into seven parts plus annexes as follows:

- Part 1** General Information: provides a general description of the requirement;
- Part 2** Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation and states that the Bidder agrees to be bound by the clauses and conditions contained in all parts of the bid solicitation;
- Part 3** Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;
- Part 4** Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, if applicable, and the basis of selection;
- Part 5** Certifications: includes the certifications to be provided;
- Part 6** Security, Financial and Other Requirements: includes specific requirements that must be addressed by bidders; and
- Part 7** Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Requirement, the Basis of Payment and other annexes..

### **1.2 Summary**

- (i) The requirement is:
  - a) To carry out the ship maintenance refit regarding the Canadian Coast Guard Ship (C.C.G.S.) Amundsen during the fall 2018 layouts at section 97, in the Port of Québec, QC, in accordance with the associated Technical Specifications detailed in the Requirement attached as Annex A.
  - b) To carry out any approved unscheduled work not covered in paragraph a) above.
- (ii) The requirement is exempt from the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), Annex 4 and the North American Free Trade Agreement (NAFTA), Chapter 10 Annex 1001.2b Paragraph 1, however, it is subject to the Canadian Free Trade Agreement (CFTA).

### **1.3 Debriefings**

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

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## **PART 2 – BIDDER INSTRUCTIONS**

### **2.1 Standard Instructions, Clauses and Conditions**

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2017-04-27) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

### **2.2 Submission of Bids**

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation. Bidders can also submit their bid by facsimile at (1) 418-648-2209, by the date, time and place indicated on page 1 of the bid solicitation.

### **2.3 Enquiries - Bid Solicitation**

All enquiries must be submitted in writing to the Contracting Authority no later than **seven (7)** calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a "proprietary" nature must be clearly marked "proprietary" at each relevant item. Items identified as proprietary will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

### **2.4 Applicable Laws**

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in the Province of Quebec.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

## **2.5 Bidders' Conference – Vessel**

A bidders' Conference chaired by the Contracting Authority will be convened on board vessel CCGS Amundsen at 2:00 pm, May 24, 2018. The vessel will be moored at Section 97 in the Port au Quebec.

**An attendance confirmation is required before 11:00 am, May 22, 2018.**

## **2.6 Viewing – Vessel**

A vessel's viewing will be held immediately after the bidders' conference.

## **2.7 Proposed Work Period**

Work is to commence and be completed as follows:

Start: September 11<sup>th</sup>, 2018 or as per ship's availability. (At the earlier date.)  
End: October 21<sup>st</sup>, 2018 or 5 weeks after ship being made available by CCG

The Bidder agrees through submission of its response to the bid solicitation that the above time frame provides an adequate period to perform the subject work and absorb a reasonable amount of unscheduled work; and further, that they have sufficient material and human resources allocated or available to complete the subject work and a reasonable amount of unscheduled work within the Work period.

## **2.8 Docking Facility *(Not used)***

## **2.9 List of Proposed Sub-contractors**

If the bid includes the use of subcontractors, the Bidder agrees, upon written request from the Contracting Authority, to provide a list of all subcontractors including a description of the things to be purchased, a description of the work to be performed by specification section and the location of the performance of that work. The list should not include the purchase of off-the-shelf items, software and such standard articles and materials as are ordinarily produced by manufacturers in the normal course of business, or the provision of such incidental services as might ordinarily be subcontracted in performing the Work, i.e. subcontract work valued at less than \$2000.00.

## **2.10 Quality Plan - Solicitation *(Not used)***

## **2.11 Inspection and Test Plan *(Not used)***

## **2.12 Vessel Refit, Repair or Docking - Cost**

All charges, fees expenses and disbursements incidental to the carrying out of the Work, including all items described in Supplemental General Conditions 1029 (2010-08-16) Ship Repair, section (07), are

included in the Evaluation Price (and in the Contract Price under the Contract), including, without limitation:

1. **Services** (*Not used*)
2. **Docking and Undocking** (*Not used*)
3. **Field Service Representatives/Supervisory Services:** include all costs for field service representatives/supervisory services including manufacturers' representatives, engineers, etc.
4. **Removals:** include all costs for removals necessary to carry out the Work and will be the responsibility of the successful Bidder whether or not they are identified in the specifications, except those removals not apparent when viewing the vessel or examining the drawings. The successful Bidder will also be responsible for safe storage of removed items and reinstalling them on completion of the Work. The successful Bidder will be responsible for renewal of components damaged during removal.
5. **Sheltering, Staging, Cranage and Transportation:** include the cost of all sheltering, staging including handrails, cranage and transportation to carry out the Work as specified.

The successful Bidder will be responsible for the cost of any necessary modification of these facilities to meet applicable safety regulations.

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## **PART 3 – BID PREPARATION INSTRUCTIONS**

### **3.1 Bid Preparation Instructions**

#### **3.1.1 Canada requests that bidders provide their bid in separately bound sections as follows:**

- Section I: Management Bid (1 hard copy)
- Section II: Financial Bid (1 hard copy)
- Section III: Certifications Requirements (1 hard copy)

**Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.**

Canada requests that bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process Policy on Green Procurement (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>) . To assist Canada in reaching its objectives, bidders are encouraged to:

- (1) use paper containing fibre certified as originating from a sustainably-managed forest and/or containing minimum 30% recycled content; and
- (2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

#### **Section I: Management Bid**

The Management Bid should be concise and should include all the certifications and other requirements as noted in Parts 4 and 6.

#### **Section II: Financial Bid**

Bidders must submit their financial bid in accordance with the Financial Bid Presentation Sheet Annex I and the detailed Pricing Data Sheet, Appendix 1 to Annex I. The total amount of Goods and Services Tax or Harmonized Sales Tax is to be shown separately, if applicable.

#### **Section III: Certification Requirements**

Bidders must submit the certifications required under Part 5.

### **3.1.2    Unscheduled Work and Evaluation Price**

In any vessel refit, repair or docking contract, unscheduled work will arise after the vessel and its equipment is opened up and surveyed. The anticipated cost of the Work will be included in the evaluation of bids. The overall total cost will be calculated by including an estimated amount of additional person-hours (and/or material) multiplied by a firm hourly charge-out labour rate and is added to the firm price for the Work.

The overall total referred to as the "Evaluation Price" will be used for evaluating the bids. The estimated work will be based on historical experience and there is no minimum or maximum amount of unscheduled work nor is there a guarantee of such work.

## **PART 4 – EVALUATION PROCEDURES AND BASIS OF SELECTION**

### **4.1 Evaluation Procedures**

- a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical, management and financial evaluation criteria specified below.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

#### **4.1.1 Financial Bid**

Bidders must submit their financial bid in accordance with the Financial Bid Presentation Sheet Annex "I". The total amount of Goods and Services Tax or Harmonized Sales Tax is to be shown separately, if applicable.

#### **4.1.2 Mandatory Criteria**

Bids will be assessed in accordance with the entire requirement of the bid solicitation including compliance with the mandatory certifications and table of deliverable requirements as detailed in Parts 2, 4, 5 & 6. Only those bids which are found to meet all the mandatory requirements within the specified time frames will be deemed responsive.

#### **4.1.3 Table of Mandatory Requirements to be met by bid closing**

Notwithstanding deliverable requirements specified anywhere else within this solicitation and its associated Technical Specification, the following are the only mandatory deliverables that must be submitted with the Bid at the time of bid closing. The following are mandatory and the Bidder must be compliant on each item to be considered responsive

<b>Item</b>	<b>Description</b>	<b>Completed and Attached</b>
1	Completed Annex "I" Financial Bid presentation Sheet	
2	Completed Appendix 1 to Annex "I" <u>Price Per Item Sheet</u>	
3	Letter or proof of Insurance as per article 6. 13 of Part 6	

#### **4.1.4 Other information upon request only**

The following information, which supports the bid, may be requested by the Contracting Authority from the bidder and it must be provided within **two (2)** working days of the written request:

<b>Item</b>	<b>Description</b>	<b>Completed and Attached</b>
1	Proof of welding certification, as per clause 6.7 of Part 6;	Prior to contract award
2	Annex J – Pricing Data Sheet;	Prior to contract award
3	Work Schedule and Reports as per article 6.9, Part 6;	Prior to contract award
4	Sub-contract and Sub-contractor List , as per clause 7.15 of Part 7	Prior to contract award
5	Technical bid in accordance with Annex K – Mandatory Technical Evaluation Criteria Presentation Sheets	Prior to contract award

#### 4.1.5 Deliverables after Contract award

Element	Description	Doit être fourni après l'attribution du Contrat, dans les
1	Insurance Requirements as per article 7.11, Part 7;	5 calendar days
2	Work Schedule and Reports as per article 7.16, Part 7;	5 calendar days
3	Inspections and tests plan as per article 7.28, Part 7	5 calendar days

#### 4.2 Basis of Selection

A bid must comply with the requirements of the bid solicitation and meet all mandatory evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

##### 4.2.1 Equivalent Product

SACC Manual Clause B3000T (2006-06-16) Equivalent Product

#### 4.3 Public Bid Opening

A public bid opening will be held in Public Works and Government Services Canada, 601-1550, D'Estimauville Ave., Québec, Qc at 02:00 PM (EDT) on the date show at the first page.

Following solicitation closing, bid results may be obtained by calling at No. (418) 649-2888.

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## **PART 5 – CERTIFICATIONS**

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

### **5.1 Certifications Required with the Bid**

Bidders must submit the following duly completed certifications as part of their bid.

#### **5.1.1 Integrity Provisions - Declaration of Convicted Offences**

In accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide with its bid the required documentation, as applicable, to be given further consideration in the procurement process.

### **5.2 Mandatory Certifications Required Precedent to Contract Award**

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

#### **5.2.1 Disposition relatives à l'intégrité – documentation exigée**

In accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

#### **5.2.2 Federal Contractors Program for Employment Equity - Bid Certification**

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the Employment and Social Development Canada (ESDC) - Labour's website

([http://www.esdc.gc.ca/en/jobs/workplace/human\\_rights/employment\\_equity/federal\\_contractor\\_program.page?\\_ga=1.229006812.1158694905.1413548969](http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?_ga=1.229006812.1158694905.1413548969)).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

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## **PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS**

### **6.1 Security Requirement** *(Not used)*

### **6.2 Financial Requirements** *(Not used)*

### **6.3 Accommodation** *(Not used)*

### **6.4 Parking** *(Not used)*

### **6.5 Material and Supply Support** *(Not used)*

### **6.6 Workers' Compensation - Letter of Good Standing** *(Not used)*

### **6.7 Welding Certification**

Upon contracting authority's request should submit evidence demonstrating its certification to the welding standards in accordance with the following:

Welding must be undertaken by a company Certified by the Canadian Welding Bureau (CWB) to the requirements of the following Canadian Standards Association (CSA) standards:

- (a) CSA W47.1, Certification of Companies for Fusion Welding of Steel, section 2;
- (b) CSA W47.2, Certification of companies for fusion welding of aluminum;

In addition, welding must be done in accordance with the requirements of the applicable and related drawings and specifications.

### **6.8 Valid Labour Agreement** *(Not used)*

### **6.9 Work Schedule and Reports**

The bidder must provide within **two (2)** working days of the written request, one (1) copy of its preliminary production work schedule. This schedule is to show the commencement and completion dates for the Work in the available work period, including realistic target dates for significant events. This schedule will be reviewed with the successful Bidder at the Pre-Refit Meeting.

### **6.10 Fueling and De-fueling Crown Vessels** *(Not used)*

### **6.11 ISO 9001:2000 - Quality Management Systems** *(Not used)*

### **6.12 Environmental Protection** *(Not used)*

### **6.13 Insurances Requirements**

At bids closing date the Bidder must provide a letter from an insurance broker or an insurance company licensed to operate in Canada stating that the Bidder, if awarded a contract as a result of the bid solicitation, can be insured in accordance with the Insurance Requirements specified in Annex "C".

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## **PARTIE 7 – RESULTING CONTRACT CLAUSES**

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

### **1. Requirement**

The Contractor must:

- a) To carry out the ship repair work regarding the Canadian Coast Guard Ship (C.C.G.S.) Amundsen during the fall 2018 layouts at section 97, in the Port of Québec, QC, in accordance with the associated Technical Specifications detailed in the Requirement attached as Annex A.
- b) to carry out any approved unscheduled work not covered in paragraph a) Above.

### **2. Standard Clauses and Conditions**

All clauses and conditions identified in the Contract by number, date and title are set out in the *Standard Acquisition Clauses and Conditions* Manual issued by Public Works and Government Services Canada (PWGSC). The Manual is available on the PWGSC Website:  
<http://sacc.pwgsc.gc.ca/sacc/index-e.jsp>.

#### **2.1 General Conditions**

2030 (2016-04-04), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract (with the exception of Article 26 which is deleted in its entirety and replace with Article 42 here below).

Section 22 of 2030 is amended in Annex E Warranty.

#### **2.2 Supplemental General Conditions**

1029 (2010-08-16) Ship Repairs, excluding section 07 & 09 apply to and form part of the Contract.

### **3. Security Requirement**

There is no security requirement associated with this Statement of Work.

### **4. Term of Contract**

#### **4.1 Contract period**

The contract period is from Contract award date until the end of the warranty period inclusively.

## **4.2 Work period**

Work is to commence and be completed as follows:

Start: September 11<sup>th</sup>, 2018 or as per ship's availability. (At the earlier date.)  
End: November 21<sup>st</sup>, 2018 or 5 weeks after the ship being made available by CCG

The Contractor agrees that the above time frame provides an adequate period to perform the subject work and absorb a reasonable amount of unscheduled work; and further, that it has sufficient material and human resources allocated or available to complete the subject work and a reasonable amount of unscheduled work within the Work Period.

## **5. Authorities**

### **5.1 Contracting Authority**

The Contracting Authority for the Contract is:

Mathieu Gagnon  
Supply Leader (marine)  
Public Works and Government Services Canada  
Eastern Quebec Directorate  
Marine Section

Telephone: 418-649-2883  
Facsimile: 418-648-2209  
E-mail address: [mathieu.gagnon@pwgsc-tpsgc.gc.ca](mailto:mathieu.gagnon@pwgsc-tpsgc.gc.ca)

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

### **5.2 Technical Authority**

The Technical Authority for the Contract is:

*Name will be determined at Contract award*

Telephone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

The Technical Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority; however, the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

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### 5.3 Inspection Authority/Inspector

The Inspection Authority for the Contract is:

See section 5.2

The Inspection Authority is the Department of Public Works and Government Services Canada, who for the purposes of this requirement is the inspector responsible for inspection of the work and acceptance of the finished work under this requirement. The Inspection Authority will be represented on-site by a designated inspector and such other Government of Canada inspectors who will from time to time be assigned in support of the designated Inspector.

### 5.4 Contractor's representative

The Technical Authority for the Contract is:

*Name will be determined at Contract award*

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone: \_\_\_\_\_

Facsimile: \_\_\_\_\_

E-mail address: \_\_\_\_\_

### 5.5 Technical Representative

The Technical Representative for the Contract is:

*Name will be determined at Contract award*

Telephone: \_\_\_\_\_

Facsimile: \_\_\_\_\_

E-mail address: \_\_\_\_\_

The Technical Representative is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority; however, the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

## 6. Payment

### 6.1 Basis of Payment - Firm Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid the firm price indicated in Annex B. Goods and Services Tax or Harmonized Sales Tax is extra, if applicable. Payment for unscheduled work will be done in accordance with Basis of Payment outlined at Annex B.

## **6.2 Payment Terms - Progress Payments**

1. Canada will make progress payments in accordance with the payment provisions of the Contract, no more than once a month, for cost incurred in the performance of the Work, up to 90 percent of the amount claimed and approved by Canada if:
  - (a) an accurate and complete claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
  - (b) the amount claimed is in accordance with the basis of payment;
  - (c) the total amount for all progress payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Contract;
  - (d) all certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives.
2. The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of all work required under the Contract if the Work has been accepted by Canada and a final claim for the payment is submitted.
3. Progress payments are interim payments only. Canada may conduct a government audit and interim time and cost verifications and reserves the rights to make adjustments to the Contract from time to time during the performance of the Work. Any overpayment resulting from progress payments or otherwise must be refunded promptly to Canada.

## **6.3 Clauses du guide des CCUA**

SACC Manual Clause C6000C (2017-08-17)  
SACC Manual Clause H4500C (2010-01-11)

Limitation of Price  
Lien - Section 427 of the Bank Act

## **7. Instructions relatives à la facturation**

### **7.1 Présentation des factures**

L'entrepreneur doit présenter des factures qui contiennent les renseignements exigés aux Conditions générales 2030 (2016-04-04) article 13.

### **7.2 Invoice**

#### **7.2.1 Transmission of invoices**

Invoice to be made to the name of:

[DFO.invoicing-facturation.MPO@canada.ca](mailto:DFO.invoicing-facturation.MPO@canada.ca)

Mailing Address :  
Pêches et Océans Canada  
PO Box 1901, STN A  
Fredericton (Nouveau-Brunswick)  
E3B 5G4

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Electronic copy to be sent for verification to:  
[mathieu.gagnon@tpsgc-pwgsc.gc.ca](mailto:mathieu.gagnon@tpsgc-pwgsc.gc.ca)

### **7.3 Warranty Holdback**

A warranty holdback of **10%** of the total contract price as last amended (applicable taxes excluded) will be applied to the final claim for payment. This holdback will be payable by Canada upon the expiry of the 90 day warranty period(s) applicable to the work. Applicable taxes are to be calculated and paid on the total amount of the claim before the 10% holdback is applied. At the time that the holdback is released, there will be no applicable taxes payable, as it was included in previous payments.

## **8. Certifications**

### **8.1 Generality**

Compliance with the certifications provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the entire contract period. If the Contractor does not comply with any certification or it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

## **9. Applicable Laws**

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in \_\_\_\_\_.

## **10. Priority of Documents**

If there is a discrepancy between the wordings of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the Supplemental General Conditions 1029, (2010-08-16), Ship Repairs;
- (c) General Conditions 2030, (2016-04-04) - Higher Complexity - Goods;
- (d) Annex A, Requirement;
- (e) Annex B, Basis of Payment;
- (f) Annex C, Insurance Requirements;
- (g) Annex E, Warranty;
- (h) the Contractor's bid dated \_\_\_\_\_.

## **11. Insurance Requirements**

The Contractor must comply with the insurance requirements specified in Annex C. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements will not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible to decide if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage will be at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within cinq (5) calendar days after the date of award of the Contract a Certificate of Insurance including details of the insurance coverage, exclusions, deductibles and conditions and confirming that the insurance policy complying with the requirements is in force. The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

**12. Financial Security** *(Not used)*

**13. Accommodation** *(Not used)*

**14. Parking** *(Not used)*

**15. Sub-contracts and Sub-contractor List**

The Contracting Authority is to be notified, in writing, of any changes to the list of subcontractors before commencing the work.

When the Contractor sub-contracts work, a copy of the sub-contract purchase order is to be passed to the Contracting Authority. In addition, the Contractor must monitor progress of sub-contracted work and inform the Inspection Authority on pertinent stages of work to permit inspection when considered necessary the Inspection Authority.

**16. Work Schedule and Reports**

No later than **five (5) calendar days** after contract award, the preliminary schedule must be revised and expanded as necessary and resubmitted before commencement of the Work.

The Contractor must provide a detailed work schedule showing the commencement and completion dates for the Work in the available work period, including realistic target dates for significant events. During the Work Period the schedule is to be reviewed on an ongoing basis by the Inspection Authority and the Contractor, updated when necessary, and available in the Contractor's office for review by Canada's authorities to determine the progress of the Work.

Production work schedules must be revised and resubmitted before each Progress Meeting. The revised schedules must show the effect of progressed work and approved work arisings. Changes in scheduled completion dates due to unscheduled work will not be accepted except as negotiated under Design Change or Additional Work, Article 26.

**17. Insulation Materials - Asbestos Free**

All materials used to insulate or re-insulate any surfaces on board the vessel must meet Transport Canada Marine standards, for commercial marine work, and, for all work, be free from asbestos in any form. The Contractor must ensure that all machinery and equipment located below or adjacent to surfaces to be re-insulated are adequately covered and protected before removing existing insulation.

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**18. Loan of Equipment - Marine** *(Not used)*

**19. Trade Qualifications**

The Contractor must use qualified, certificated (if applicable) and competent tradespeople and supervision to ensure a uniform high level of workmanship. The Inspection Authority may request to view and record details of the certification and/or qualifications held by the Contractor's tradespeople. This request should not be unduly exercised but only to ensure qualified tradespeople are on the job.

**20. Material and Supply Support** *(Not used)*

**21. ISO 9001:2000 - Quality Management Systems** *(Not used)*

**22. Quality Control Plan** *(Not used)*

The Contractor must implement and follow the Quality Control Plan (QCP) prepared according to the latest issue (at contract date) of ISO 10005 Quality management - Guidelines for quality plans, approved by the Inspection and Technical Authorities. The QCP shall describe how the Contractor will conform to the specified quality requirements of the Contract and specify how the required quality activities are to be carried out, including quality assurance of subcontractors. The Contractor must include a traceability matrix from the elements of the specified quality requirements to the corresponding paragraphs in the QCP.

The documents referenced in the QCP shall be made available when requested by the Inspection Authority.

The Contractor must make appropriate amendments to the QCP throughout the term of the contract to reflect current and planned quality activities. Amendments to the QCP must be acceptable to the Inspection and Technical Authorities.

**Refer to Annex "D" for further details on the Quality Control Plan requirements.**

**23. Welding Certification**

Welding must only be undertaken by a company Certified by the Canadian Welding Bureau (CWB) to the requirements of the following Canadian Standards Association (CSA) standards:

- (a) CSA W47.1, Certification of Companies for Fusion Welding of Steel, section 2.
- (b) CSA W47.2, Certification of companies for fusion welding of aluminum;

In addition, welding must be done in accordance with the requirements of the applicable drawings and specifications.

Before the commencement of any fabrication work, and upon request from the Inspection Authority, the Contractor must provide approved welding procedures and/or a list of welding personnel intended to be used in the completion of the work. The list must identify the CWB welding procedure qualifications attained by each of the personnel listed and must be accompanied by a copy of each person's current CWB welding certification.

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## **24. Environmental Protection**

The Contractor and its sub-contractors engaged in the Work on a Crown vessel must carry out the Work in compliance with applicable municipal, provincial and federal environmental laws, regulations and industry standards.

The Contractor must have detailed procedures and processes for identifying, removing, tracking, storing, transporting and disposing of all potential pollutants and hazardous material encountered, to ensure compliance as required above.

All waste disposal certificates are to be provided to the Inspection Authority, with information copies sent to the Contracting Authority. Furthermore, additional evidence of compliance with municipal, provincial and federal environmental laws and regulations is to be furnished by the Contractor to the Contracting Authority when so requested.

The Contractor must have environmental emergency response plans and/or procedures in place. Contractor and subcontractor employees must have received the appropriate training in emergency preparedness and response. Contractor personnel engaging in activities which may cause environmental impacts or potential noncompliance situations, must be competent to do so on the basis of appropriate education, training, or experience.

## **25. Fueling and De-fueling a Crown Vessel *(Not used)***

## **26. Procedure for Design Change or Additional Work**

SACC Manual Clause B5007C (2010-01-11) Design Change or Additional Work

### **26.1 Price Breakdown:**

L'entrepreneur doit fournir, sur demande, une ventilation de prix pour tous les travaux imprévus, selon les activités individuelles précises, en fonction des domaines professionnels, des heures-personnes, du matériel, des contrats de sous-traitance et des services.

### **26.2. Pro-rated Prices:**

Hours and prices for unscheduled work will be based on comparable historical data applicable to similar work at the same facility, or will be determined by pro-rating the quoted work costs in the Contract when in similar areas of the vessel.

## **27. Equipment/Systems *(Not used)***

## **28. Inspection and Test Plan**

The Contractor must, in support of their QCP, implement an approved Inspection & Test Plan (ITP).

The Contractor must provide at no additional cost to the Crown, all applicable test data, all Contractor technical data, test pieces and samples as may reasonably be required by the Inspection Authority to verify conformance to contract requirements. The Contractor must forward at his expense such technical data, test data, test pieces and samples to such location as the Inspector may direct.

**Refer to Annex "D" for details on Inspection and Test Plan Requirements.**

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**29. Vessel Custody** *(Not used)*

**30. Vessel manned Refits**

SACC Manual Clause A0032C (2011-05-16) Vessel Manned Refits

**31. Pre-Refit Meeting**

A Pre-Refit meeting will be convened and chaired by the Contracting Authority at the work site, before the commencement of the work period.

**32. Meetings**

Les réunions d'avancement, présidées par l'autorité contractante, auront lieu aux installations de Progress meetings, chaired by the Contracting Authority, will take place at the Contractor's facility as and when required, generally once a month. Interim meetings may also be scheduled. Contractor attendees at these meetings will, as a minimum, be its Contract (Project) Manager, Production Manager (Superintendent) and Quality Assurance Manager. Progress meetings will generally incorporate Technical meetings to be chaired by the Technical Authority.

**33. Outstanding Work and Acceptance**

The Inspection Authority, in conjunction with the Contractor, will prepare a list of outstanding work items towards the end of the vessel Work Period. This list will form the annexes to the formal acceptance document for the vessel. A Contract Completion Meeting will be convened by the Inspector on the work completion date to review and sign off the Acceptance Document. In addition to any amount held under the Warranty Holdback Clause, a holdback of twice the estimated value of outstanding work will be held until completion of said work.

The PWGSC-TPSGC 1205 Acceptance Document is to be completed and distribution is to be made by the Public Works and Government Services Canada Inspection Authority as follows:

- (a) original to the PWGSC Contracting Authority
- (b) one copy to the Technical Authority
- (c) one copy to contractor.

**34. Licensing**

The Contractor must obtain and maintain all permits, licenses and certificates of approval required for the work to be performed under any applicable federal, provincial or municipal legislation. The Contractor is responsible for any charges imposed by such legislation or regulations. Upon request, the Contractor must provide a copy of any such permit, license or certificate to Canada.

**35. Hazardous Waste – Vessels**

SACC Manual Clause A0290C (2008-05-12) Hazardous Waste - Vessels

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**36. Government Site Regulations**

SACC Manual Clause A9068C (2010-01-11) Government Site Regulations

**37. Scrap and Waste Material**

SACC Manual Clause A9055C (2010-08-16) Scrap and Waste Material

**38. Stability and Weight Management** *(Not used)*

**39. Vessel - Access by Canada** *(Not used)*

**40. Title to Property - Vessel** *(Not used)*

**41. Defence Contract**

SACC Manual Clause A9006C (2012-07-16) Defence Contract

**42. Limitation of Contractor's Liability for Damages to Canada**

1. This section applies despite any other provision of the Contract and replaces the section of the general conditions entitled "Liability". Any reference in this section to damages caused by the Contractor also includes damages caused by its employees, as well as its subcontractors, agents, and representatives, and any of their employees.
2. Whether the claim is based in contract, tort, or another cause of action, the Contractor's liability for all damages suffered by Canada caused by the Contractor's performance of or failure to perform the Contract is limited to \$10 million per incident or occurrence to an annual aggregate of \$20 million for losses or damage caused in any one year of carrying out the Contract, each year starting on the date of coming into force of the Contract or its anniversary. This limitation of the Contractor's liability does not apply to nor include:
  - (a) Any infringement of intellectual property rights;
  - (b) Any breach of warranty obligations;
  - (c) Any liability of Canada to a third party arising from any act or omission of the Contractor in performing the Contract; or
  - (d) Any loss for which the policies of insurance specified in the Contract or any other policies of insurance held by the Contractor would provide insurance coverage.
3. Each Party agrees that it is fully liable for any damages that it causes to any third party in connection with the Contract, regardless of whether the third party makes its claim against Canada or the Contractor. If Canada is required, as a result of joint and several liability, to pay a third party in respect of damages caused by the Contractor, the Contractor must reimburse Canada for that amount.

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4. The Parties agree that nothing herein is intended to limit any insurable interest of the Contractor nor to limit the amounts otherwise recoverable under any insurance policy. The Parties agree that to the extent that the insurance coverage required to be maintained by the Contractor under this Contract or any additional insurance coverage maintained by the Contractor, whichever is greater, is more than the limitations of liability described in sub article (2), the limitations provided herein are increased accordingly and the Contractor shall be liable for the higher amount to the full extent of the insurance proceeds recovered.
  5. If, at any time, the total cumulative liability of the Contractor for losses or damage suffered by Canada caused by the Contractor's performance of or failure to perform the Contract, excluding liability described under subsection 2(a), (b), (c) and (d) exceeds \$40 million, either Party may terminate the Contract by giving notice in writing to the other Party and neither Party will make any claim against the other for damages, costs, expected profits or any other such loss arising out of the termination. However, no such termination or expiry of the Contract shall reduce or terminate any of the liabilities that have accrued to the effective date of the termination but which liabilities are subject to the limitations as specified in sub-article (1) through (4) above.
  6. The date of termination pursuant to this Article, shall be the date specified by Canada in its notice to terminate, or, if the Contractor exercises the right to terminate, in a notice to the Contractor from Canada in response to the Contractor's notice to terminate. The date of termination shall be in Canada's discretion to a maximum of 12 months after service of the original notice to terminate served by either Party pursuant to sub-article 5, above.
  7. In the event of a termination under this Article, the Contract will automatically remain in force subject to all of the same terms and conditions until the date of termination and the Contractor agrees that it will be paid in accordance with the applicable provisions as set out in the Basis of Payment, Annex B and that the Contractor's liability remains as specified in sub-articles (1) through (4), above.
  8. Nothing shall limit Canada's other remedies, including Canada's right to terminate the Contract for default for breach by the Contractor of any of its obligations under this Contract, notwithstanding that the Contractor may have reached any limitation of its liability hereunder.

Solicitation No – N° de l'invitation  
F3756-18N044/A  
Client Ref No. – N° de réf. du client  
F3756-18N044

Amd. No. – N° de la modif.  
File No. – N° du dossier  
QCL-7- 41014

Buyer ID – id de l'acheteur  
qcl 036

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## **ANNEX A**

### **STATEMENT OF REQUIREMENT**

**See electronic Annex.**

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**ANNEX B**

**BASIS OF PAYMENT FIRM PRICE**

***Remark to Bidder: Annex B will form the Basis of Payment for the resulting contract and should not be filled in at annex 'I' the bid submission stage.***

**B1 Contract Firm Price**

<b>A)</b>	<b>Known Work</b> For work as stated in Contract Clause 1a), Specified in Annex "A" and detailed in the Price per Item Sheet, Appendix 1 of Annex 1 as well as Pricing Data Sheet, Annex J, for a FIRM PRICE of:	\$ _____
	<b>Total Firm Price :</b>	\$ _____

**B2 Unscheduled Work**

**Payment for Unscheduled Work:**

The Contractor will be paid for unscheduled work arising, as authorized by Canada. The authorized unscheduled work will be calculated as follows:

Number of hours (to be negotiated) X \$ \_\_\_\_\_, being the Contractor's firm hourly charge-out labour rate which includes overhead and profit, plus net laid-down cost of materials to which will be added a mark-up of 10 percent, plus Goods and Services Tax or Harmonized Sales Tax, if applicable, calculated at 5 percent of the total cost of material and labour. The firm hourly charge-out labour rate and the material mark-up will remain firm for the term of the Contract and any subsequent amendments.

- B2.1:** Notwithstanding definitions or useage elsewhere in this document, or in the Bidder's Cost Management System, when negotiating *Hours* for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package. Elements of *Related Labour Costs* identified in B2.2 below, will not be negotiated, but will be included in the firm hourly Charge-out Labour Rate in accordance with paragraph B2.2
- B2.2:** Allowance for *Related Labour Costs* such as: Management, Direct Supervision, Purchasing and Material Handling, Quality Assurance and Reporting, First Aid, Gas Free Inspecting and Reporting, and Estimating will be included as *Overhead* within the *firm hourly Charge-out Labour Rate* entered in line B2 above.
- B2.3:** The 10% mark-up rate for materials will also apply to subcontracted costs. The mark-up rate includes any allowance for material and subcontract management not allowed for in the Chargeout Labour Rate. The Contractor will not be entitled to a separate labour component for the purchase and handling of materials or subcontract administration.

### **B3 Overtime**

No overtime work shall be compensated for under the Contract unless authorized in advance and in writing by the Contracting Authority. Any request for payment must be accompanied by a copy of the overtime authorization and a report containing such details as Canada may require with respect to the overtime work performed. Compensation for authorized overtime will be calculated in the following manner:

- a. For Known Work, the Contractor will be paid the original contract price plus agreed overtime hours paid at the following premium rates; or,
- b. For Unscheduled Work, the Contractor will be paid for agreed overtime hours paid at the firm hourly Charge-out Labour Rate above plus the following premium rates:

Premium for Time and one half: \$ \_\_\_\_\_ per hour; or,

Premium for Double time: \$ \_\_\_\_\_ per hour

The above premiums rates shall be calculated as follows:

Premium for time and one half:

$\frac{1}{2}$  (that portion of the firm Hourly Charge-out Labour Rate in B2 that is directly attributable to salary cost plus related certified fringe benefits) times 7.5% (representing profit)

Premium for double time:

The portion of the Unscheduled Work firm Charge-out Labour Rate in B2 that is directly attributable to salary cost plus related certified fringe benefits times 7.5% (representing profit)

These premiums will remain firm for the duration of the Contract, including all amendments and are subject to audit by Canada, and to retroactive adjustment if Canada discovers that the premiums have not been calculated in accordance with the formulae, above.

### **B4 Daily Services Fee**

Not used

### **B5 Cost of all Services is Included in Contract Price**

All charges, fees expenses and disbursements incidental to the carrying out of the Work, are included in the Contract Price for the Work, including, without limitation:

1. **Services:** Not used
2. **Docking and Undocking:** Not used
3. **Field Service Representatives/Supervisory Services:** include all costs for field service representatives/supervisory services including manufacturers' representatives, engineers, etc.

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4. **Removals:** include all costs for removals necessary to carry out the Work and will be the responsibility of the Contractor whether or not they are identified in the specifications, except those removals not apparent when viewing the vessel or examining the drawings. The Contractor will also be responsible for safe storage of removed items and reinstalling them on completion of the Work. The Contractor will be responsible for renewal of components damaged during removal.
  5. **Sheltering, Staging, Cranage and Transportation:** include the cost of all sheltering, staging including handrails, cranage and transportation to carry out the Work as specified.

The Contractor will be responsible for the cost of any necessary modification of these facilities to meet applicable safety regulations.

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## **ANNEX C**

### **INSURANCE REQUIREMENTS**

#### **C.1 Ship Repairers' Liability Insurance (G5001C)**

1. The Contractor must obtain Ship Repairer's Liability Insurance and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$10,000,000 per accident or occurrence and in the annual aggregate
2. The Ship Repairer's Liability insurance must include the following:
  - (a) Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada as additional insured should read as follows: Canada, represented by Public Works and Government Services Canada.
  - (b) waiver of subrogation rights: Contractor's insurer to waive all rights of subrogation against Canada as represented by the Department of Public Works and Government Services Canada and the Canadian Coast Guard for any and all loss of or damage to the vessel, however caused.
  - (c) Notice of Cancellation: The Insurer will endeavor to provide the Contracting Authority thirty (30) days written notice of cancellation.
  - (d) Contractual Liability: The policy must, on a blanket basis or by specific reference to the contract, extend to assumed liabilities with respect to contractual provisions.
  - (e) Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.

#### **C.2 Commercial General Liability Insurance (G2001C)**

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$10,000,000 per accident or occurrence and in the annual aggregate.
2. The Commercial General Liability Insurance policy must include the following:
  - (a) Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.
  - (b) Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
  - (c) Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.

- (d) Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
- (e) Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
- (f) Employees and, if applicable, Volunteers must be included as Additional Insured.
- (g) Employers' Liability: to protect the Contractor for liabilities arising in the management and administration of statutory and contractual entitlements of its employees.
- (h) Notice of Cancellation: The Insurer agrees to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
- (i) If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
- (j) Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.
- (k) Sudden and accidental Pollution Liability (minimum 72 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.

### **C.3 Limitation of Contractor's Liability for Damages to Canada**

1. This section applies despite any other provision of the Contract and replaces the section of the general conditions entitled "Liability". Any reference in this section to damages caused by the Contractor also includes damages caused by its employees, as well as its subcontractors, agents, and representatives, and any of their employees.
2. Whether the claim is based in contract, tort, or another cause of action, the Contractor's liability for all damages suffered by Canada caused by the Contractor's performance of or failure to perform the Contract is limited to \$10 million per incident or occurrence to an annual aggregate of \$20 million for losses or damage caused in any one year of carrying out the Contract, each year starting on the date of coming into force of the Contract or its anniversary. This limitation of the Contractor's liability does not apply to nor include:
  - a) any infringement of intellectual property rights; or
  - b) any breach of warranty obligations.
3. Each Party agrees that it is fully liable for any damages that it causes to any third party in connection with the Contract, regardless of whether the third party makes its claim against Canada or the Contractor. If Canada is required, as a result of joint and several liability, to pay a third party in respect of damages caused by the Contractor, the Contractor must reimburse Canada for that amount.

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## ANNEX D

### INSPECTION/QUALITY ASSURANCE/QUALITY CONTROL

#### D.1 Inspection and Test Plan (ITP):

1. The Contractor must prepare an Inspection and Test Plan (ITP) comprising individual inspection and test plans for each specification item of this project, in accordance with the Quality Standard and its Quality Control Plan. The ITP must be submitted to the Inspection Authority for review and amended by the Contractor to the satisfaction of the Inspection Authority.
  - (a) Each ITP must contain all inspection points identified in the Technical Specification highlighting any mandatory points that must be witnessed by the Inspection Authority and other "hold" points imposed by the Contractor to ensure the quality of the work.
  - (b) Milestone delivery date for the ITP is given in the Contract, however individual ITPs should be forwarded for review as developed.
2. Coding:
  - (a) Each Inspection and Test Plan (ITP) is to be coded for identification clearly demonstrating a systematic approach similar to the following (Contractor's system should be defined in its Quality Control Plan):
    - (i) Prefixes for Inspections, Test and Trials:  
  
Prefix "1" is a Contractor inspection, i.e. 1H-10-01, 1H-10-02;  
  
prefix "2" is a Contractor post repair test, i.e. 2H-10-01; and  
  
prefix "3" is a Contractor post repair trial, i.e. 3H-10-01.
  - (b) Specification items followed by assigned sequence numbers for inspection processes within each Specification Item; and
  - (c) Cross reference to a verification document number
3. Inspection and Test Plan Criteria:

Inspection criteria, procedures and requirements are stated in the specifications, drawings, technical orders and reference standards invoked by the Specifications. Test and trial documentation may also be included or referenced in the Specifications. An individual Inspection and Test Plan (ITP) is required for each Specification item.

  - (a) All ITPs must be prepared by the Contractor in accordance with the above criteria, its Quality Plan, and must provide the following reference information:
    - (i) the ship's name;
    - (ii) the Specification item number;

- (iii) equipment/system description and a statement defining the parameter which is being inspected;
- (iv) a list of applicable documents referenced or specified in the inspection procedure;
- (v) the inspection, test or trial requirements specified in the Technical Specification;
- (vi) the tools and equipment required to accomplish the inspection;
- (vii) the environmental conditions under which the inspections are to be conducted and the tolerances on the inspection conditions;
- (viii) a detailed step-by step procedure of how each inspection is to be performed, conformance parameters, accept/reject criteria and recording of results, deficiencies found and description of corrective action(s) required;
- (ix) name and signature of the person who prepared the plan, date prepared and amendment level; and,
- (x) names and signatures of the persons conducting and witnessing the inspection, test or trial.

4. Contractor Imposed Testing:

Tests and trials in addition to those given in the Technical Specification must be approved by the Inspection Authority.

- (a) Amendments: Amendment action for the Inspection and Test Plans must be ongoing throughout the refit and reflect the inspection requirements for unscheduled work. Amendments must be submitted as developed, but not less frequently than once every second week.

## **D.2 Conduct of Inspection**

1. Inspections must be conducted in accordance with the ITP.
2. The Contractor must provide its own staff or subcontracted staff to conduct inspections, tests and trials; excepting that Technical Authority or Inspection Authority personnel may be designated in the specifications, in which case the Contractor must ensure that its own staff are provided in support of such inspection/test/trial.
3. The Contractor must ensure that the required conditions stated in the ITP prevail at the commencement of, and for the duration of, each inspection/test/trial.
4. The Contractor must ensure that personnel required for equipment operation and records taking during the inspection/test/trial are briefed and available at the start and throughout the duration of the inspection/test/trial. Tradesmen or FSRs who may be required to effect minor changes or adjustments in the installation must be available at short notice.
5. The Contractor is to coordinate the activities of all personnel taking part in each inspection/test/trial and ensure that safe conditions prevail throughout the inspection/test/trial.

## **D.3 Inspection Records and Reports**

1. The Contractor on the inspection record, test or trials sheets as applicable must record the results of each inspection. The Contractor must maintain files of completed inspection records consistent with the Quality Standard and its Quality Plan for this project.

2. The Contractor's QC representative (and the FSR when required) must sign as having witnessed the inspection, test or trial on the inspection record. The Contractor must forward originals of completed inspection records, together with completed test(s) and/or trials sheets to the Inspection Authority as they are completed.
3. Unsatisfactory inspection/test/trial results, for which corrective action cannot be completed during the normal course of the inspection/test/trial, will require the Contractor to establish and record the cause of the unsatisfactory condition to the satisfaction of the Inspection Authority. Canada representatives may assist in identification where appropriate.
4. Corrective action to remove cause of unsatisfactory inspections must be submitted to the Inspection Authority in writing by the Contractor, for approval before affecting such repairs and rescheduling of the unsatisfactory inspection/test/trial. Such notices must be included in the final records passed to the Inspection Authority.
5. The Contractor must undertake rectification of defects and deficiencies in the Contractor's installation or repair as soon as practicable. The Contractor is responsible to schedule such repairs at its own risk.
6. The Contractor must reschedule unsatisfactory inspections after any required repairs have been completed.
7. Quality Control, Inspection and Test records that substantiate conformance to the specified requirements, including records of corrective actions, must be retained by the Contractor for three (3) years from the date of completion or termination of the Contract and must be made available to the Inspection Authority upon request.

#### **D.4 Inspection and Trials Process**

1. Drawings and Purchase Orders
  - (a) Upon receipt of two (2) copies of each drawing or purchase order, the designated Inspection Authority will review its content against the provisions of the Specifications. Where discrepancies are noted, the Inspection Authority will formally advise all concerned, in writing using a Discrepancy Notice. The resolution of any such discrepancy is a matter for consultation between the Contractor and other Crown Authorities.

**The Inspection Authority is NOT responsible for the resolution of discrepancies.**

2. Inspection
  - (a) Upon receipt and acceptance of the Contractor's ITP, inspection will consist of a number of Inspection Points supplemented by such other inspections, tests, demonstrations and trials as may be deemed necessary by the Inspection Authority to permit him to certify that the work has been performed in compliance with the provisions of the Specifications. The Contractor must be responsible for notifying the designated Inspection Authority of when the work will be available for inspection, sufficiently in advance to permit the designated Inspection Authority to arrange for the appropriate inspection.
  - (b) The Inspection Authority will inspect the materials, equipment and work throughout the project against the provisions of the Technical Specification and, where non-conformances are noted, will issue appropriate **INSPECTION NON-CONFORMANCE REPORTS**.

- (c) The Contract requires the implementation of a Quality Assurance/Quality Control system, so the Inspection authority must require that the Contractor provide a copy of its internal inspection report pertaining to a work item before conducting the requested inspection. If third party inspections are required by the Contract (e.g. inspections by a certified CWB 178.2 welding inspector), the reports of these inspections must be required before the Work is inspected by the Inspection Authority.
- (d) The QA/QC system is a requirement, so if the documentation is presented to the Inspection Authority before an inspection stating that the Work is satisfactory but the Inspection Authority finds that the Work has not been satisfactorily inspected, the Inspection Authority must issue an Inspection Non-conformance Report against the Work and another against the failure of the Contractor's QA/QC system.
- (e) Before carrying out any inspection, the Inspection Authority must review the requirements for the Work and the acceptance and/or rejection standards to be applied. Where more than one standard or requirement is called up and they are potentially conflicting, the Inspection Authority must refer to the order of precedence in the Contract to determine the standard or requirement to be applied.

### 3. Inspection Non-conformance report

- (a) An Inspection Non-conformance report will be issued for each non-conformance noted by the Inspection Authority. Each report will be uniquely numbered for reference purposes, will be signed and dated by the Inspection Authority, and will describe the non-conformance.
- (b) When the non-conformance has been corrected by the Contractor and has been re-inspected and accepted by the Inspection Authority, the Inspection Authority will complete the Report by adding an applicable signed and dated notation.
- (c) At the end of the project, the content of all Inspection Non-conformance Reports which have not been signed-off by the Inspection Authority will be transferred to the Acceptance Documents before the Inspection Authority's certification of such documents.

### 4. Tests, Trials, and Demonstrations

- (a) To enable the Inspection Authority to certify that the Work has been performed satisfactorily, in accordance with the Contract and Specifications, the Contractor must schedule, co-ordinate, perform, and record all specified Tests, Trials and Demonstrations required by the Inspection Authority.
- (b) Where the Specifications contain a specific performance requirement for any component, equipment, sub-system or system, the Contractor must test such component, equipment, sub-system or system to the satisfaction of the Inspection Authority, to prove that the specified performance has been achieved and that the component, equipment, sub-system or system performs as required by the specifications.
- (c) Tests, trials and demonstrations must be conducted in accordance with a logical, systematic schedule which must ensure that all associated components and equipment are proven before sub-systems demonstration or testing, and that sub-systems are proven before system demonstration or testing.

- (d) Where the Specifications do not contain specific performance requirements for any component, equipment, sub-system or system, the Contractor must demonstrate such component, equipment, sub-system or system to the satisfaction of the Inspection Authority.
- (e) The contractor must submit its Test and Inspection Plan as indicated in section D.1 above.
- (f) The Contractor must co-ordinate each test, trial and demonstration with all interested parties, including the Inspection Authority; Contracting and Technical Authorities; regulatory authorities; Classification Society; Sub-contractors; etc. The Contractor must provide the Inspection Authority and other Crown Authorities with a minimum of five working days' notice of each scheduled test, trial, or demonstration.
- (g) The Contractor must keep written records of all tests, trials, and demonstrations conducted.
- (h) The Contractor must in all respects be responsible for the conduct of all tests and trials in accordance with the requirements of the Contract.
- (i) The Inspection Authority and the Technical Authority reserve the right to defer starting or continuing with any sea trials for any reasonable cause including but not limited to adverse weather, visibility, equipment failure or degradation, lack of qualified personnel and inadequate compliance with safety standards..

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## ANNEX E

### WARRANTY

**2030 (2016-04-04) General Conditions Higher Complexity Goods are hereby amended, by deleting section 2030 22 (2014-09-25), Warranty and replacing it as follows:**

#### **E.1 Section 22 Warranty**

1. At the discretion of the Minister, the Contractor will replace or make good at its own expense any finished work, excluding Government Issue incorporated therein, which becomes defective or which fails to conform to contract requirements as a result of faulty or inefficient manufacture, material or workmanship.
2. Notwithstanding prior acceptance of the finished work, and without restricting any other term of the Contract or any condition, warranty or provision implied or imposed by law, the Contractor hereby warrants that the following shall be free from all defects and shall conform with the requirements of the contract:
  - (a) The painting of the underwater portion of the hull for a period of three hundred and sixty-five (365) days commencing from the date of undocking, except that the Contractor will only be liable to repair and/or replace to a value to be determined as follows:

Original cost to Canada of the underwater painting Work, divided by three hundred and sixty-five (365) days and multiplied by the number of days remaining in the warranty period. The resultant would represent the "Dollar Credit" due to Canada from the Contractor.

- (b) All other painting Work for a period of three hundred and sixty-five (365) days commencing from the date of acceptance of the Work;
    - (c) all parts and material provided by the Contractor for a period of three hundred and sixty-five (365) days commencing from the date of acceptance of such parts or material;
    - (d) All other items of Work for a period of ninety (90) days commencing from the date of acceptance of the Work, except that:
      - (i) the warranty on the Work related to any system or equipment not immediately placed in continuous use or service shall extend for a period of ninety (90) days from the date of acceptance of the vessel;
      - ii) for all outstanding defects, deviations, and Work items listed on the Acceptance Document at Delivery, the Warranty will be ninety (90) days from the subsequent date of acceptance for each item.
3. If more than one warranty period applies, in accordance with the above, to any Work, then the warranty shall be for the longest period.
4. The Contractor agrees to pass to Canada, and exercise on behalf of Canada, all warranties on the Materials supplied or held by the Contractor which exceed the periods indicated Above.

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## **E.2 Warranty Procedures**

### **E2.1 Scope**

- (a) The following are the procedures which suit the particular requirements for warranty considerations for a vessel on completion of a refit.

### **E2.2 Definition**

- (a) There are a number of definitions of "warranty" most of which are intended to describe its force and effect in law. One such definition is offered as follows:

"A warranty is an agreement whereby the vendor's or manufacturer's responsibility for performance of its product is extended for a specific period of time beyond the date at which the title to the product passes to the buyer."

### **E2.3 Warranty Conditions**

- (a) General Conditions 2030, Higher Complexity - Goods are augmented by clauses incorporated into the subject Contract.
- (b) The warranty periods may be stated in more than one part.
  - (i) 90 days commencing from the day the PWGSC 1205 Acceptance Document is signed for workmanship provided by the contractor for the refit work specified;
  - (ii) 365 days from the date of undocking the vessel for the specified areas of underwater paint and topside painting;
  - (iii) 365 days commencing from the day the PWGSC 1205 Acceptance Document is signed for parts and material provided by the contractor for the refit work specified;
  - (iv) Any other specific warranty periods that may be required in the contract or offered by the Contractor.
- (c) The foregoing does not cover the disposition of other deficiencies that will be directly related to Technical Authority problem areas of the following nature:
  - (i) items becoming unserviceable that were not included in the refit specification;
  - (ii) refit specifications or other related documentation requiring amendments or corrections to increase viability; and
  - (iii) work performed that is directly related to the Technical Authority.

### **E2.4 Reporting Failures With Warranty Potential**

- (a) The initial purpose of a report of a failure is to facilitate the decision as to whether or not to involve warranty and to generate action to effect repairs. Therefore in addition to identification, location data, etc. the report must contain details of the defect. Warranty decisions as a general rule are to be made locally and the administrative process is to be in accordance with procedures as indicated.
- (b) These procedures are necessary as invoking a warranty does not simply mean that the warrantor will automatically proceed with repairs at his expense. A review of the defect may well result in a disclaimer of responsibility, therefore, it is imperative that during such a review the Department is directly represented by competent technical authority qualified to agree or disagree with the warrantor's assertions.

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## **E2.5 Procedures**

- (a) Immediately it becomes known to the Ship's Staff that an equipment/system is performing below accepted standards or has become defective, the procedures for the investigation and reporting are as follows:
- (i) The vessel advises the Technical Authority when a defect, which is considered to be directly associated the refit work, has occurred.
  - (ii) On review of the Specification and the Acceptance Document, the Technical Authority in consort with Ship's Staff is to complete the Tombstone Data and section 1 of the Warranty Claim Form and forward the original to the Contractor for review with a copy to the PWGSC contracting Authority. If the PWGSC Contracting or Inspection Authority is unable to support warranty action, the Defect Claim Form will be returned to the originator with a brief justification. (It is to be noted that in the latter instance PWGSC will inform the Contractor of its decision and no further action will be required of the Contractor.

Warranty defect claims may be forwarded in hard copy, by fax or by e-mail whichever format is the most convenient.

- (iii) Assuming the Contractor accepts full responsibility for repair, the Contractor completes Section 2 and 3 of the Warranty Claim Form, returns it to the Inspection Authority who confirms corrective action has been completed, and who then distributes the form to the Technical Authority and the PWGSC Contracting Authority.
- (b) In the event that the Contractor disputes the claim as a warranty defect, or agrees to share, the contractor is to complete Part 2 of the Warranty Claim Form with the appropriate information and forward it to the Contracting Authority who will distribute copies as necessary.
- (c) When a warranty defect claim is disputed by the Contractor, the Technical Authority may arrange to correct the defect by in-house resources or by contracting the work out. All associated costs must be tracked and recorded as a possible charge against the contractor by PWGSC action. Material costs and man-hours expended in correcting the defect are to be recorded and entered in Section 5 of the warranty defect claim by the Technical Authority who will forward the warranty defect claim to the PWGSC Contracting Authority for action. Defective parts of equipment are to be retained pending settlement of claim.
- (d) Defective equipment associated with potential warranty should not normally be dismantled until the contractor's representative has had the opportunity to observe the defect. The necessary work is to be undertaken through normal repair methods and costs must be segregated as a possible charge against a contractor by PWGSC action.

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## **E2.6 Liability**

- (a) Agreement between the Contracting Authority, Inspection Authority, Technical Authority and the Contractor will result in one of the following conditions:
  - (i) The contractor accepts full responsibility for costs to repair or overhaul under the warranty provisions of the contract;
  - (ii) The Technical Authority accepts full responsibility for repair and overhaul of item concerned; or
  - (iii) The Contractor and the Technical Authority agree to share responsibility for the costs to repair or overhaul the unserviceable item, in such cases the PWGSC Contracting Authority will negotiate the best possible sharing arrangement.
- (b) In the event of a disagreement as in paragraph 5c, PWGSC will take necessary action with the contractor while the Technical Authority informs its Senior Management including pertinent data and recommendations.
- (c) The total cost of processing warranty claims must include accommodation and travel costs of the contractor's employees as well as equipment/system down time and operational constraints. Accordingly, the cost to remediate the defect, in man-hours and material, will be discussed between the Contracting/Inspection Authorities and the Technical Authority to determine the best course of action.

## **E2.7 Alongside Period For Warranty Repairs and Checks**

- (a) If at all possible, an alongside period for the vessel is to be arranged just before the expiration of the 90 day warranty period. This alongside period is to provide time for warranty repair and check by the contractor.
- (b) In respect to the underwater paint, should it become defective during the associated warranty period the contractor is only liable to repair to a value determined as follows:

“Original cost to Canada for painting and preservation of the underwater section of the hull, divided by three hundred and sixty-five (365) days and multiplied by the number of days remaining in the three hundred and sixty-five (365) days day warranty period. The resultant would represent the ‘Dollar Credit’ due to Canada from the Contractor.”
- (c) The Underwater paint system, before expiration of the warranty, should be checked by divers. The Technical Authority, is to arrange the inspection and inform the Contracting Authority of any adverse results.

Solicitation No – N° de l'invitation  
F3756-18N044/A  
Client Ref No. – N° de réf. du client  
F3756-18N044

Amd. No. – N° de la modif.  
File No. – N° du dossier  
QCL-7- 41014

Buyer ID – id de l'acheteur  
qcl 036

## APPENDIX 1 OF ANNEX E



Public Works and  
Government  
Services Canada

Travaux publics et Services  
gouvernementaux Canada

### Warranty Claim Réclamation De Garantie

Vessel Name – Nom de navire	File No. – N° de dossier	Contract No. - N ° de contrat
Customer Department – Ministère client		Warranty Claim Serial No. Numéro de série de réclamation de garantie
Contractor – Entrepreneur		<b><u>Effect on Vessel Operations</u></b> <b><u>Effet sur des opérations de navire</u></b>  Critical      Degraded      Operational Non-operational  Critique      Dégradé      Opérationnel Non-opérationnel

### 1. Description of Complaint – Description de plainte

Contact Information – l'information de contact

Name – Nom

Tel. No. - N ° Tél

Signature – Signature

Date

Solicitation No – N° de l'invitation  
F3756-18N044/A  
Client Ref No. – N° de réf. du client  
F3756-18N044

Amd. No. – N° de la modif.  
File No. – N° du dossier  
QCL-7- 41014

Buyer ID – id de l'acheteur  
qcl 036

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**2. Contractor's Investigative Report – Le rapport investigateur de l'entrepreneur**

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**3. Contractor's Corrective Action – La modalité de reprise de l'entrepreneur**

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Contractor's Name and Signature – Nom et signature de l'entrepreneur  
Corrective Action - Date de modalité de reprise

Date of

---

Client Name and Signature - Nom et signature de client

Date

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**4. PWGSC Review of Warranty Claim Action – Examen d'action de réclamation de garantie par TPSCG**

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---

Signature – Signature

Date

---

Solicitation No – N° de l'invitation  
F3756-18N044/A  
Client Ref No. – N° de réf. du client  
F3756-18N044

Amd. No. – N° de la modif.  
File No. – N° du dossier  
QCL-7- 41014

Buyer ID – id de l'acheteur  
qcl 036

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**ANNEX F**

**VESSEL CUSTODY**

**(NOT USED)**

Solicitation No – N° de l'invitation  
F3756-18N044/A  
Client Ref No. – N° de réf. du client  
F3756-18N044

Amd. No. – N° de la modif.  
File No. – N° du dossier  
QCL-7- 41014

Buyer ID – id de l'acheteur  
qcl 036

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**ANNEXE G**  
**SECURITY REQUIREMENTS CHECK LIST**  
**(NOT USED)**

Solicitation No – N° de l'invitation  
F3756-18N044/A  
Client Ref No. – N° de réf. du client  
F3756-18N044

Amd. No. – N° de la modif.  
File No. – N° du dossier  
QCL-7- 41014

Buyer ID – id de l'acheteur  
qcl 036

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**ANNEXE H**  
**PROJECT MANAGEMENT SERVICES**  
**(NOT USED)**

## ANNEX I

### FINANCIAL BID PRESENTATION SHEET

#### I1 Price for Evaluation

<b>A)</b>	<b>Known Work</b> For work as stated in Part 1 Clause 1.2 (i) a), Specified in Annex "A" and detailed in the Price per Item Sheet, Appendix 1 of this Annex, for a FIRM PRICE of:	_____ \$
<b>B)</b>	<b>Unscheduled Work</b> Contractor <i>Labour Cost</i> . Estimated labour hours at a firm <i>hourly Charge-out Labour Rate</i> , including overhead and profit for evaluation purpose only: 2 000 person hours X \$ _____ per hour for a PRICE of: <b>See Note I2.1 and I2.2 below.</b>	_____ \$
<b>C)</b>	<b>EVALUATION PRICE</b> GST Excluded, [A + B]:  For an EVALUATION PRICE of :	_____ \$

#### I2 Unscheduled Work

The Contractor will be paid for unscheduled work arising, as authorized by the Minister, calculated in the following manner:

"Number of hours (to be negotiated) X \$ \_\_\_\_\_ your firm *hourly Charge-out Labour Rate* which includes *Overhead* and profit, plus net laid-down cost of materials to which shall be added a 10% mark-up, plus Goods and Services Tax or Harmonized Sales Tax as applicable, of the total cost of material and labour. The firm *hourly Charge-out Labour Rate* and the material mark-up will remain firm for the duration of the Contract and any subsequent amendments thereto."

**I2.1:** Notwithstanding definitions or usage elsewhere in this document, or in the Bidder's Cost Management System, when negotiating *Hours* for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package.

Elements of Related Labour Costs identified in I2.2 below, will not be negotiated, but will be compensated for in accordance with paragraph I2.2. It is therefore incumbent upon the Bidder to enter values in the above table which will result in fair compensation, regardless of the structure of their Cost Management System.

**I2.2:** Allowance for *Related Labour Costs* such as: Management, Direct Supervision, Purchasing and Material Handling, Quality Assurance and Reporting, First Aid, Gas Free Inspecting and Reporting, and Estimating will be included as *Overhead* for the purposes of determining the *Charge-out Labour Rate* entered in line I2 above.

**I2.3:** The 10% mark-up rate for materials will also apply to subcontracted costs. The mark-up rate includes any allowance for material and subcontract management not allowed for in the Chargeout Labour Rate. The Contractor will not be entitled to a separate labour component for the purchase and handling of materials or subcontract administration.

### I3 Overtime

No overtime work shall be compensated for under the Contract unless authorized in advance and in writing by the Contracting Authority. Any request for payment must be accompanied by a copy of the overtime authorization and a report containing such details as Canada may require with respect to the overtime work performed. Compensation for authorized overtime will be calculated in the following manner:

- a. For Known Work, the Contractor will be paid the original contract price plus agreed overtime hours paid at the following premium rates; or,
- b. For Unscheduled Work, the Contractor will be paid for agreed overtime hours paid at the firm hourly Charge-out Labour Rate above plus the following premium rates:

Premium for Time and one half: \$ \_\_\_\_\_ per hour; or,

Premium for Double time: \$ \_\_\_\_\_ per hour

The above premiums rates shall be calculated as follows:

Premium for time and one half:

½ (that portion of the firm Hourly Charge-out Labour Rate in I2 that is directly attributable to salary cost plus related certified fringe benefits) times 7.5% (representing profit)

Premium for double time:

The portion of the Unscheduled Work firm Charge-out Labour Rate in I2 that is directly attributable to salary cost plus related certified fringe benefits times 7.5% (representing profit)

These premiums will remain firm for the duration of the Contract, including all amendments and are subject to audit by Canada, and to retroactive adjustment if Canada discovers that the premiums have not been calculated in accordance with the formulae, above.

### I4 Daily Services Fee

Not used

### I5 Cost of all Services is Included in Contract Price

All charges, fees expenses and disbursements incidental to the carrying out of the Work, are included in the Evaluation Price for the Work, including, without limitation:

1. **Services:** Not used
2. **Docking and Undocking:** Not used
3. **Field Service Representatives/Supervisory Services:** include all costs for field service representatives/supervisory services including manufacturers' representatives, engineers, etc.

4. **Removals:** include all costs for removals necessary to carry out the Work and will be the responsibility of the Contractor whether or not they are identified in the specifications, except those removals not apparent when viewing the vessel or examining the drawings. The successful Bidder will also be responsible for safe storage of removed items and reinstalling them on completion of the Work. The successful Bidder will be responsible for renewal of components damaged during removal.

5. **Sheltering, Staging, Cranage and Transportation:** include the cost of all sheltering, staging including handrails, craneage and transportation to carry out the Work as specified.

The successful Bidder will be responsible for the cost of any necessary modification of these facilities to meet applicable safety regulations.

#### **I6 Vessel Transfer Costs**

Not used

## APPENDIX 1 OF ANNEX I

### SCHEDULED WORK:

PRICE PER ITEM SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
1	GENERAL	_____ \$
2	PRODUCTION DIAGRAM	_____ \$
3	PROPULSION DIESEL ENGINE #4 RECOMMISSIONING	_____ \$
A) SCHEDULED WORK - TOTAL FIRM PRICE		_____ \$

### OPTIONAL WORK:

PRICE PER ITEM SHEETS		
Item	Description – B) OPTIONAL WORK	Firm Price
3	SUPPLY OF OPTIONAL WALL PANELS ONLY	_____ \$
	OPTIONAL MACHINING WORK ONLY	_____ \$
B) OPTIONAL WORK - TOTAL FIRM PRICE		_____ \$

**Note:** PWGSC reserves the right to exercise all the options or partial options.

The Contractor grants to Canada the irrevocable option to acquire the goods, services or both described at Annex A of the Contract under the same conditions and at the prices and/or rates stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment. The Contracting Authority may exercise the option within **15 working days** prior beginning of work by sending a written notice to the Contractor.

### SUMMARY:

TOTAL A SCHEDULED WORK	TOTAL B OPTIONAL WORK	TOTAL C FIRM BID PRICE
_____ \$	_____ \$	_____ \$

### Remark to Bidders:

Canada may reject the bid if any of the prices submitted do not reasonably reflect the cost of performing the part of the work to which that price applies.

**ANNEX J**  
**PRICING DATA SHEETS**

**Scheduled Work:**

<b>PRICING DATA SHEETS</b>		
<b>Item</b>	<b>Description – A) SCHEDULED WORK</b>	<b>Firm Price</b>
<b>1</b>	<b>GENERAL</b> (Bidders can enter \$0.00 or indicate 'included' if the fees for this item are distributed in each of the items bellow. In case the fees are not distributed an amount must be indicated in the price box.)	\$ _____
<b>2</b>	<b>PRODUCTION DIAGRAM</b>  <div style="text-align: right; margin-bottom: 10px;">Materials, equipment and consumables = \$ _____</div> <div style="text-align: right; margin-bottom: 10px;">Labour ; \$ _____ /hour X _____ hours = \$ _____</div> <div style="text-align: right;">Total for this item: \$ _____</div>	\$ _____
<b>3</b>	<div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <b>PROPULSION DIESEL ENGINE #4 RECOMMISSIONING</b> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <b>3.1 – Scope, 3.2 – Reference Documents &amp; 3.4 – Proof of performance</b>            (Overheads fees related to this item must be distributed in each sub items.)         </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <b>3.3 – Technical Description</b> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <b>3.3.1 General description</b>            (Overheads fees related to this item must be distributed in each sub items.)         </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <b>3.3.2 – Engineering</b>   <div style="text-align: right; margin-bottom: 10px;">Materials, equipment and consumables = \$ _____</div> <div style="text-align: right; margin-bottom: 10px;">Labour ; \$ _____ /hour X _____ hours = \$ _____</div> <div style="text-align: right;">Total for item 3.3.2 : \$ _____</div> </div> <div style="width: 35%; border-left: 1px solid black; border-right: 1px solid black; padding: 0 10px;"> <div style="border-bottom: 1px solid black; height: 100px;"></div> </div> </div> </div> <div style="padding-bottom: 5px;"> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <b>3.3.3 – Field Service Representative from the Original Equipment Manufacturer of ALCO Engine</b>   <div style="text-align: right; margin-bottom: 10px;">Mobilization / demobilization = \$ _____</div> <div style="text-align: right; margin-bottom: 10px;">Materials, equipment and consumables = \$ _____</div> <div style="text-align: right; margin-bottom: 10px;">Labour ; \$ _____ /hour X _____ hours = \$ _____</div> <div style="text-align: right;">Total for item 3.3.3 : \$ _____</div> </div> <div style="width: 35%; border-left: 1px solid black; border-right: 1px solid black; padding: 0 10px;"> <div style="border-bottom: 1px solid black; height: 100px;"></div> </div> </div> </div>	\$ _____

PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
	<b>3.3.4 – Disassembly and reassembly of equipment</b> (Excluding steel work as well as optional work)  Mobilization / demobilization = \$ _____	
	<b>Disassembly and reassembly of cabins fixed furniture</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Disassembly and reassembly of wall panels</b> (Excluding the optional supply of panels)  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Protection of wall and floors</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Disassembly and reassembly of thermal insulation</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Disassembly and reassembly A-60 insulation (floors)</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Demolition of floor covering</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Installation of new floor covering</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	

PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
	<b>Disassembly and reassembly of ventilation ducting</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Disassembly and reassembly of lighting and electric cables</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Disassembly and reassembly of doors</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Disassembly and reassembly of lifting beams</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Disassembly and reassembly of exhaust pipes</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Disassembly and reassembly of engine</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Verification of flatness and straightness of the engine block</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Laser inspection of the crankshaft alignment</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Total for item 3.3.4 - Disassembly and reassembly of equipment:</b> (Excluding steel work as well as optional work) \$ _____	

PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
	<b>3.3.4 – Steel Work</b>  Mobilization / demobilization = \$ _____ Welding procedures = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Cutting, removal and closing of opening in the hull</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Sandblasting and painting of hull</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Cutting, removal and reinstallation of Main deck</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Sandblasting and painting of Main deck</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Installation and removal of lifting and handling supports</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Sanding and painting of lifting and handling supports</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Non-destructive tests</b>  Cost of tests = \$ _____	
	<b>Total for item 3.3.4 – Steel Work : \$ _____</b>	

PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
	<b>3.3.5 – Services</b>  Mobilization / demobilization = \$ _____	
	<b>Temporary power and lighting</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Temporary scaffolding and sheltering</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Ventilation</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>External lifting (cranes)</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Internal lifting (Chain blocks and trolleys)</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Transport and handling</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Transport and disposal of Asbestos</b>  Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____  <b>Total for item : \$ _____</b>	
	<b>Total for item 3.3.5 : \$ _____</b>	
	<b>Total for item 3 : \$ _____</b>	
<b>TOTAL A) FIRM PRICE FOR SCHEDULED WORK =</b>		<b>\$ _____</b>

**Optional Work:**

PRICING DATA SHEETS		
Item	Description – B) OPTIONAL WORK	Firm Price
3	<b>PROPULSION DIESEL ENGINE #4 RECOMMISSIONING</b> (Optional work only)	
	<b>3.3.4 – Supply of optional wall panels</b>	
	Unit Price; \$ _____ /panel X 12 panels = \$ _____	
	<b>Total for the supply of wall panels:</b> \$ _____	
	<b>3.3.4 – Optional machining Work</b>	
	Mobilization / demobilization = \$ _____	
	<b>Machining the head of the block (flatness)</b>	
	Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ <b>Total for item : \$ _____</b>	
<b>Boring of the crankshaft</b>		
Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____ <b>Total for item : \$ _____</b>		
	<b>Total for Optional machining Work:</b> \$ _____	
<b>TOTAL B) FIRM PRICE FOR OPTIONAL WORK =</b>		<b>\$ _____</b>

**Remark to Bidders:**

Canada may reject the bid if any of the prices submitted do not reasonably reflect the cost of performing the part of the work to which that price applies.

## ANNEX “K”

### Technical bid presentation sheet

Id.	Description	Technical references within the bid documents (page #, paragraph, etc.)
<b>Technical Bid (this annex is part of the Technical Bid)</b>		
Provide Technical Bid in accordance with Annex K – Mandatory Technical Evaluation Criteria Presentation Sheets		
<b>Equivalent Product</b>		
4.1.3 5)	<b><u>Roxul RHT 60 insulation or equivalent</u></b>	<b>To provide at bid closing</b>
		Proposed Make: _____
		Proposed Model: _____
		<b>To provide within two (2) working days after written request</b>
		- Demonstration that the thermal resistance is equal or above 0.75 m²K/W.
		- Demonstration that the flash point is at least 1177 °C.
	<b><u>New wall covering Ayrlite 2054 or equivalent</u></b>	<b>To provide at bid closing</b>
		Proposed Make: _____
		Proposed Model: _____
		<b>To provide within two (2) working days after written request</b>
		- Demonstration that panels are approved by a Class Society recognized by the DSIP*.
		- Demonstration that panels can sustain a charge of 2697 Newton on the length ( <i>long beam</i> ) for panels of 0.8 in thick.

	<b><u>Armstrong Tiles, model Excellon or equivalent</u></b>	<b>To provide at bid closing</b>
		Proposed Make: _____ Proposed Model: _____
		<b>To provide within two (2) working days after written request</b>
		- Demonstration that the tiles are certified as per the « Application of Fire test procedures », 2010 IMO code.
	<b><u>Armstrong Vinyl, model Premium G 6210 or equivalent</u></b>	<b>To provide at bid closing</b>
		Proposed Make: _____ Proposed Model: _____
		<b>To provide within two (2) working days after written request</b>
		- Demonstration that the Vinyl is certified as per the « Application of Fire test procedures », 2010 IMO code.

\* Delegated Statutory Inspection Program (DSIP) – Policy  
<https://www.tc.gc.ca/eng/marinesafety/tp-tp13585-policy-menu-3501.htm>

**Refit  
Fall 2018**

**CCGS Amundsen**

Prepared by Marine Engineering  
101 Champlain Blvd.  
Québec, Quebec  
G2C 1W4

<b>1</b>	<b>GENERAL .....</b>	<b>1</b>
1.1	LIST OF ACRONYMS .....	1
1.2	CCG REQUIREMENTS APPLICABLE TO THE ENTIRE SPECIFICATION .....	1
1.3	REGLEMENTATION, STANDARDS AND DOCUMENTS APPLICABLE TO THE ENTIRE SPECIFICATION.....	8
1.4	INFORMATIONS ABOUT THE VESSEL .....	9
<b>2</b>	<b>PRODUCTION DIAGRAM.....</b>	<b>10</b>
2.1	SCOPE .....	10
2.2	TECHNICAL DESCRIPTION.....	10
2.3	PROOF OF PERFORMANCE .....	10
<b>3</b>	<b>RECOMMISSIONING OF DIESEL PROPULSION ENGINE #4.....</b>	<b>10</b>
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## **1 GENERAL**

### **1.1 Localisation and date of work**

The refit will take place at wharf 97 at CCG base in Québec. The work period is from September 11 to October 21.

### **1.2 List of acronyms**

CA	Contracting Authority
TA	Technical Authority
IA	Inspection Authority
CCG	Canadian Coast Guard
CLC	Canada Labour Code
CSM	Contractor Supplied Material
CSA	Canadian Standards Association
CSA 2001	Canadian Shipping act
CWB	Canadian Welding Bureau
DFO-CCG	Fisheries and Oceans Canada and Canadian Coast guard
FSSM	Fleet Safety and Security Manual
FSR	Field Service Representative
GSM	Government Supplied Material
GFE	Government Furnished Equipment
HC	Health Canada
IEEE	Institute of Electrical and Electronics Engineers
OL	Overall length
MSDS	Material Safety Data Sheet
OHS	Occupational Health and Safety
PWGSC	Public Works and Government Services Canada
SSMS	Safety and Security Management System
TBS	Treasury Board Secretariat of Canada
TCMS	Transport Canada Marine Safety
WHMIS	Workplace Hazardous Materials Information System
LR	Lloyd's register
NDT	Non-destructive testing
UT	Ultrasonic
NRCan	Natural Ressources Canada
DSIP	Delegated statutory Inspection Program
ME#	Main Engine
OEM	Original Equipment Manufacturer

### **1.3 CCG requirements applicable to the entire specification**

#### **1.3.1 Occupational Health and Safety**

- 1.3.1.1 The contractor and all sub-contractors must comply with occupational health and safety (OHS) instructions in accordance with relevant federal and provincial OHS regulations

and ensure that the contractor's activities are conducted safely and without compromising the safety of any personnel.

- 1.3.1.2 The contractor and its employees, including sub-contractors, must participate in an orientation session on safety on board the vessel prior to commencing work in order to fully understand the risks specific to a vessel and the work protocol permit systems, as well as the procedures for safety, risk prevention, intervention in case of danger and assessment of safety prior to working. The contractor will have access to an uncontrolled copy of the Fleet Safety and Security Manual.
- 1.3.1.3 The contractor must comply with the Fleet Safety and Security Manual (DFO/5737) and with the work instructions on board the vessel, in addition to the relevant *Canada Labour Code* regulations, while performing tasks that include the following aspects:
  - 1.3.1.3.1 Diving operation
  - 1.3.1.3.2 Hot work;
  - 1.3.1.3.3 Work at height;
  - 1.3.1.3.4 Confined spaces Entry;
  - 1.3.1.3.5 Lock out / Tag out;
  - 1.3.1.3.6 Electrical work on energized circuits
  - 1.3.1.3.7 Safety assessments.
- 1.3.1.4 For the purpose of Lock out / Tag out procedures, the contractor must provide locks and locking devices to its employees in addition to those supplied by the vessel's Chief Engineer.
- 1.3.1.5 The contractor must provide a copy of the gas free certificate from a certified marine chemist or other qualified person with technical authority when performing work in tanks and bilges, prior to beginning work. The certificates must specify "Safe for persons" or "Safe for hot work", as applicable. The certificates are to be displayed in full view close to the entrance to the compartment. All tanks and pipe tunnels open for inspections and tests must be cleaned and subject to a final inspection by the technical authority (TA) prior to closure.
- 1.3.1.6 The contractor and its employees will not have access to crew stations or to the vessel's sanitary facilities. The contractor must provide the necessary amenities for its employees and sub-contractors.

### **1.3.2 Access to the workplace**

The contractor must ensure that the technical authority and CCG staff has unrestricted access at all times to the workplace throughout the duration of the contract.

### **1.3.3 Workplace Hazard Material Information System (WHMIS).**

- 1.3.3.1 The contractor must provide the TA with the Material Safety Data Sheets (MSDS) for all the products it supplies that are controlled under WHMIS.
- 1.3.3.2 The TA will allow the contractor access to the MSDS for all controlled products on board the vessel for all work items specified.

### **1.3.4 Tobacco in the workplace**

- 1.3.4.1 The contractor must ensure compliance with the *Non-smokers' Health Act*. The contractor must ensure that each employer and any person acting on behalf of an employer ensure that they refrain from smoking in workplaces under the employer's control. The contractor must ensure that absolutely no person smokes on board the vessel.

### **1.3.5 Healthy and safe workplace**

- 1.3.5.1 Before the contractor begins work on the vessel, the TA and the contractor's quality assurance representative must inspect the areas where the work will take place, including access ways. The contractor's quality assurance representative must take digital photographs of each area in order to demonstrate that it has complied with the requirements of this document. It must then upload such photographs in JPG format to a CD or a DVD. Each photograph must be dated and indicate where on the vessel it was taken. Copies of the CD or DVD must be provided to the TA for reference purposes within 48 hours of the start of the contract period.
- 1.3.5.2 During the period of the work, the contractor must ensure the upkeep of the areas of the vessel that its staff use to access the work areas. The areas must be clean and free of debris and waste must be removed every day.
- 1.3.5.3 Areas that present a danger due to the work under this specification must be secured and clearly identified by the contractor. Posters must be installed to inform and protect all members of staff in accordance with the applicable requirements of the *Canada Labour Code*.
- 1.3.5.4 At the end of this contract, the contractor must ensure that all waste produced by the work under this specification is disposed of and that the vessel is as clean as it was before beginning the contract period.
- 1.3.5.5 Once all the known work has been completed and the final cleaning has been performed, the contractor's quality assurance representative must inspect all areas of the vessel where work was performed by the contractor. Any deficiency or damage noted must be recorded and compared to the photographs taken in order to determine if the deficiency or damage stems from the work performed by the contractor. If this is the case, the damage must be repaired by the contractor, at no cost to the CCG.

### **1.3.6 Fire protection**

- 1.3.6.1 The contractor must ensure that the isolation, removal and installation of fire detection and extinguishing systems and related components are performed by a qualified technician. When fire detection or extinguishing systems are deactivated or put out of service by the contractor throughout the duration of the contract, a qualified technician must certify that they are fully functional again. The original signed and dated certificate must be issued to the technical authority (TA) and to technical inspection before the end of the contract.
- 1.3.6.2 The contractor must inform the technical inspection and the TA and obtain written approval before disturbing, removing, isolating, deactivating, putting out of service or locking out any element of the fire detection and extinguishing systems, including heat

and smoke detectors.

- 1.3.6.3 The contractor must provide protection against fires at all times and also while work is being performed on the vessel's fire detection and extinguishing systems. This may be performed in the manner proposed below, only after having obtained written approval from the TA:

- 1.3.6.3.1 Put only one part of the system out of service at a time;

- 1.3.6.3.2 Keep the system functional by using spare parts while the work is underway;

- 1.3.6.3.3 Employ other methods accepted and approved by the TA.

- 1.3.6.4 The contractor must know that if all the necessary precautions are not taken during work on the vessel's fire extinguishing systems, accidental discharge of extinguishing agent may occur. The contractor must fill and certify, at its expense, the containers or systems that are depleted due to such work.

### **1.3.7 Damaged paint and retouching**

- 1.3.7.1 Unless otherwise indicated, the contractor must provide and apply two coats of marine primer paint compatible with the vessel's paint system on all new metal surfaces and surfaces requiring retouching.

- 1.3.7.2 Before applying the first coat, the contractor must prepare all new steel structures and those that require retouching in accordance with the paint manufacturer's directions.

### **1.3.8 CCG and other employees on board the vessel**

- 1.3.8.1 Employees of the CCG and of DFO, as well as other employees such as manufacturer's representatives, TCMS or classification investigators, could result in further work on board the vessel, including work not mentioned in this specification, during the period of work. The TA will do its utmost so that other work, related inspections and investigations do not interfere with the contractor's work. The contractor should not coordinate the related inspections or pay the inspection costs for such work.

### **1.3.9 Regulatory inspections and/or classification examination**

- 1.3.9.1 The contractor must schedule and coordinate all regulatory inspections and classification surveys in collaboration with the authority concerned, e.g., Transport Canada Marine Safety, Classification society, Health Canada, Environment Canada and others, on the basis of this specification.

- 1.3.9.2 All documents produced in the context of the inspections and surveys referred to above and substantiating that they have taken place (e.g., original signed and dated certificates) must be submitted to the TA.

- 1.3.9.3 The contractor must not substitute the TA's inspection for regulatory inspections by the TCMS or classification surveys.

- 1.3.9.4 The contractor must give prior notice (of at least 24 hours) to the TA before the TCMS regulatory inspections or classification surveys planned so that the TA can be present for the inspection.

### **1.3.10 Results of tests and data collection**

- 1.3.10.1 The contractor must develop a testing and trial plan including at least all of the tests and trials mentioned in the specification. This plan must be submitted to the TA for review purposes one week before the start of the work period originally planned.
- 1.3.10.2 Any data specific to the trials, measurements, calibration or readings must be recorded, dated, accompanied by the signature of the person who took the measurements, and forwarded to the technical authority and to Marine Safety as a report in hard copy and electronic format.
- 1.3.10.3 The data recorded must be accurate to three decimal places (unless otherwise specified) and comply with the measurement system in place on the vessel.
- 1.3.10.4 The contractor must provide the TA with valid calibration certificates for all instruments used for the testing and trial plan to prove that the instruments have been calibrated in accordance with the manufacturer's instructions.
- 1.3.10.5 Hard copies of reports must be placed in standard three-ring binders, typewritten on letter-size paper and classified by specification number. Electronic copies must be in unprotected Adobe PDF format on CD-ROM. The contractor must provide three paper copies and one electronic copy of all reports.
- 1.3.10.6 All documents produced during the contract must be placed in a data collection then submitted to the TA at the end of the contract.
- 1.3.10.7 All drawings requested must be produced on ANSI format B (11 in x 17 in) paper or smaller. Three copies must be provided. Drawings must also be forwarded in DWG format (AutoCAD 2000 or more recent version), on CD-ROM, and are not to be password protected. One (1) CD-ROM must be provided.

#### **1.3.11 Material and tools provided by the contractor**

- 1.3.11.1 The contractor must ensure that all material is new and has never been used.
- 1.3.11.2 The contractor must ensure that all replacement products such as sealing components, gaskets, insulation, small hardware items, oils, lubricants, degreasing solvents, preservation agents, paints, coatings, bolts and fastening materials, among others, comply with the drawings, manuals and instructions of the equipment's manufacturer.
- 1.3.11.3 When no particular item is specified or when a replacement must be made, the TA must approve the replacement item in writing. The contractor must give the TA details on the material used and the grade and quality certificate of the various materials before use.
- 1.3.11.4 The contractor must provide all equipment, devices, tools and machinery, such as welders, cranes, scaffolding and fixtures required to perform the work indicated in this specification.
- 1.3.11.5** The contractor must ensure services for removal of waste oil, hydrocarbons and any other hazardous waste or controlled products as part of the work planned under this specification. The contractor must provide certificates of disposal for all waste listed above.
- 1.3.11.6 Such certificates of disposal must demonstrate that the disposal has been completed in accordance with federal, provincial and municipal regulations in force.

### **1.3.12 Material and tools provided by the government**

- 1.3.12.1 All tools must be provided by the contractor unless otherwise specified in the technical specification.
- 1.3.12.2 If the TA provides tools, the contractor must return them in the condition in which they were borrowed. Borrowed tools must be inventoried. The contractor must affix its signature on the inventory statement upon receipt of the tools and when they are returned to the TA.
- 1.3.12.3 The contractor must keep all goods supplied by the government in a warehouse or secure storage in a controlled atmosphere, in accordance with the manufacturer's instructions.

### **1.3.13 Restricted access areas**

- 1.3.13.1 The contractor must not enter the following areas (except to perform work in accordance with the specification): cabins, offices, workshops, engineer's office, wheelhouse, control room, toilets, kitchen, crew stations, recreation areas or other areas where restricted access is posted.
- 1.3.13.2 The contractor must give 24 hours prior notice to the TA when it needs to work in occupied spaces or offices. The CCG will then have sufficient time to move staff and secure the areas.

### **1.3.14 Contractor inspections and protection of equipment and the workplace**

- 1.3.14.1 In collaboration with the TA, the contractor must coordinate an inspection of the condition and location of items to be removed before performing the work specified or accessing a location to work on it.
- 1.3.14.2 Any damage resulting from the contractor's work and attributable to its performance of the work must be repaired by the contractor at its own expense. Material used for replacements or repairs must comply with the criteria for the material supplied by the contractor, indicated in the section Material and tools provided by the contractor.
- 1.3.14.3 The contractor must protect adjacent equipment and areas from damage. Workplaces must be protected against water infiltration, sanding and welding particles, etc. Temporary covers must be installed on workplaces.
- 1.3.14.4 The contractor must protect the vessel from infestation by vermin (insects, mammals). If an infestation occurs during the contract period, the contractor must ensure, at its expense, extermination of the vermin prior to the vessel's departure and the end of the contract.

### **1.3.15 Records of work in progress**

- 1.3.15.1 The TA may record work in progress by various methods, including photos, digital videos and film.

### **1.3.16 List of confined spaces**

- 1.3.16.1 The contractor may request a list of confined spaces in the vessel at the meeting prior to the refit.

### **1.3.17 Hazardous material**

- 1.3.17.1 CCG will provide a report(141-19427-04) of the hazardous material existing onboard the vessel. It is the contractor responsibility to plan the work according to the existing hazardous material.
- 1.3.17.2 The contractor must not use any material containing asbestos.
- 1.3.17.3 Handling of materials containing asbestos must be performed by personnel trained and certified in the removal of material containing asbestos in accordance with the federal, provincial and municipal regulations in force as well as the Fleet Safety and Security Manual. Such certificates of disposal must demonstrate that the disposal has been performed in accordance with federal, provincial and municipal regulations in force.
- 1.3.17.4 The contractor must not use paint containing lead.
- 1.3.17.5 In the past, paint containing lead was used to paint CCG vessels. Consequently, some of the contractor's processes, such as grinding, welding and burning, may release the lead content of the paint. The contractor must ensure that analyses are conducted in the work areas to test for the presence of lead in the paint and that the work is performed in accordance with applicable federal and provincial regulations.
- 1.3.17.6 The contractor must obtain approval from Health Canada for paint applied to the surface of hulls subject to regulations of Health Canada and the Pest Management Regulatory Agency.

#### **1.3.18 Material and equipment removed**

- 1.3.18.1 All equipment removed under this specification remains the property of the CCG unless otherwise noted in certain sections of the specification.

#### **1.3.19 Welding certification**

- 1.3.19.1 For any work requiring fusion welding of steel, the contractor or its sub-contractors must hold certification from the Canadian Welding Bureau in accordance with subsection 2.1 of the most recent version of W47.1-03 standard of the Canadian Standards Association.
- 1.3.19.2 For any work requiring fusion welding of steel, the contractor or its sub-contractors must hold certification from the Canadian Welding Bureau in accordance with subsection 16 of the most recent version of CSA\ACNOR AWS standard of the Canadian Standards Association.
- 1.3.19.3 For any work requiring fusion welding of steel, the contractor or its sub-contractors must hold certification from the Canadian Welding Bureau in accordance with subsection 2.1 of the most recent version of W47.2 standard of the Canadian Standards Association.
- 1.3.19.4 The contractor must provide the technical authority with documents clearly indicating the welding certification for all the employees who will perform all the welding work planned in this specification.

#### **1.3.20 Welding**

- 1.3.20.1 All welding work shall be in compliance with the CCG welding specification (CT-043-EQ-EG-0001-E).

### **1.3.21 Electrical installations**

- 1.3.21.1 All electrical installations and repairs must be performed in accordance with the most recent version of Standard TP17E (Transport Canada's Marine Safety Electrical Standards) and Standard 45 of the Institute of Electrical and Electronic Engineers (Recommended Practice for Electrical Installations on Shipboard).
- 1.3.21.2 All electronic equipment installations and repairs must be performed in accordance with the Canadian Coast Guard publication on telecommunications and electronics entitled "General Specification for the Installation of Shipboard Electronic Equipment."

### **1.3.22 Refrigeration and Air Conditioning Systems**

- a) Any work on refrigeration and air conditioning systems must be performed in accordance with Sections 2.7 and 2.8 of the *Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems*.

### **1.3.23 Tradesmen's competence**

- 1.3.23.1 The contractor must use qualified tradesmen, certified (where applicable) and competent and supervise them in order to guarantee a high uniform level of performance quality.
- 1.3.23.2 The head of inspection may ask to consult and record details of the certification or competence of the contractor's tradesmen. This request must not be exercised unduly, but is only intended to ensure that qualified tradesmen are performing the necessary work.

### **1.3.24 Shipboard crane**

- 1.3.24.1 The vessel's crane will be available to perform the necessary handling to load material on board the vessel, but the contractor shall submit a request to the Chief Engineer at least 24 hours before the beginning of the handling.

### **1.3.25 Contractor's crane**

- 1.3.25.1 It is the contractor's responsibility to verify applicable load restrictions at the dock where the vessel is moored. Slings and lifting gear are to be provided by the contractor.

### **1.3.26 Electric power and compressed air supply**

- 1.3.26.1 120 VAC electricity and 120 psi compressed air will be provided by the vessel.

### **1.3.27 Confine space rescue and rescue at height**

- 1.3.27.1 The Contractor is responsible for providing the Confined Space Rescue Service and Rescue Service at a height to intervene with these employees and subcontractors.

### **1.3.28 Parking**

- 1.3.28.1 Parking will be limited to 6 places for the contractor and these subcontractors. Parking will be based on CCG. The Contractor must schedule this work based on these parking limitations for these employees and subcontractors.

## **1.4 Reglementation, standards and documents applicable to the entire specification**

### **1.4.1 Applicable documents:**

Fleet Safety and Security Manual (FSSM) procedures	Title
7.A.1	Assessing Risk
7. B.1	Diving operation
7. B.2.	Fall protection
7. B.3	Access to confined spaces
7. B.4	Hot work
7. B.5	Lockout and Tagout
7. B.6	Electrical work on energized circuits
10. A.7	Contractor safety and security

#### 1.4.2 Publications:

TP3177E	Standard for the Control of Gas Hazards in Vessels to be Repaired or Altered
TP127E	Transport Canada's Marine Safety Electrical Standards
IEEE 45	Recommended Practice for Electrical Installations on Shipboard
CSA W47.1	Certification of companies for fusion welding of steel, section 2 (Certification)
CSA W47.2	Certification of companies for fusion welding of aluminum
CSA W59	Welded steel construction (metal arc welding)
CSA W59.2	Welded aluminum construction

#### 1.4.3 Acts and regulations:

CSA	<i>Canada Shipping Act</i>
CLC	<i>Canada Labour Code</i>
MOSH	Marine Occupational Safety and Health

### 1.5 Informations about the vessel

Name	CCGS <i>Amundsen</i>
Type	Medium/River Icebreaker
Year of construction	1979
Shipbuilder	Burrard Dry Dock, Vancouver, BC
Length	98.2 m
Width	19.5 m
Loaded draft	7.2 m
Loaded displacement	1678.8 t
Power	13,200 kw
Propulsion	Diesel electric

## **2 PRODUCTION DIAGRAM**

### **2.1 Scope**

- 2.1.1.1 This specification aims to provide the owner's representatives with an accurate schedule of the work and its completion for the needs of the Canadian Coast Guard (CCG).

### **2.2 Technical description**

- 2.2.1.1 The Contractor must provide a detailed bar chart in MS project 2010 format which illustrate the planned schedule of work to refit the vessel. The chart must show each task of the specification with its start date, duration, and planned and actual completion date.
- 2.2.1.2 Any critical work path must be indicated, with the critical tasks that risk delaying the refit work if they do not comply with the planned work schedule. These may include problems with manpower or tasks that are unable to be carried out in parallel to other tasks.
- 2.2.1.3 In case of work affecting the critical workflow, the CA, TA and IA are to be notified immediately. Every effort must be made to avoid delaying the vessel's refit. Regular quality assurance procedures must be applied.
- 2.2.1.4 The bar chart will be updated each week and prior to each production meeting to illustrate actual progress of the refit and changes made to the completion date of each item. The Contractor must include in the updates to the chart any special work requested on PWGSC Form 1379 by indicating the impact this additional work will have on the work schedule.

### **2.3 Proof of performance**

- 2.3.1.1 The Contractor must provide pdf copy and .mpp copy (MS project 2010) of the bar chart to the TA and IA no later than 3 days after contract signature.

## **3 RECOMMISSIONING OF DIESEL PROPULSION ENGINE #4**

### **3.1 Scope**

- 3.1.1.1 Diesel propulsion engine #4 of CCGS Amundsen suffered major damage in the winter of 2018. The engine block and crankshaft of the Alco 251F engine suffered irreversible damage requiring their replacement. The Canadian Coast Guard will supply a complete diesel propulsion engine for this work. The purpose of this document is to define the roles and responsibilities of the Contractor for the engine replacement work of diesel propulsion engine #4. The Contractor is responsible for handling and delivering the old engine block and crankshaft to the dock through a hole in the hull. The Contractor is responsible for handling and delivering the new engine block and crankshaft to the engine room through a hole in the hull. Work will be carried out afloat, at wharf 97 of the CCG base of Québec. The new engine must be partially assembled and the alignment shall be done under supervision of a Field Service Representative of the manufacturer (OEM). The Contractor must provide the necessary resources to check the alignment of the new engine.

### **3.2 Reference**

#### **3.2.1 Reference material**

- 3.2.1.1 830F-33912\_1
- 3.2.1.2 830F-33912\_2
- 3.2.1.3 5222-008040
- 3.2.1.4 5227-008030
- 3.2.1.5 5623-008060 jacket water flow diagram
- 3.2.1.6 5823-008080 Lube oil flow diagram
- 3.2.1.7 6622-008030 Fuel oil flow diagram
- 3.2.1.8 9028-007000\_1
- 3.2.1.9 9028-007000\_2
- 3.2.1.10 9028-007020\_1
- 3.2.1.11 9028-007020\_2
- 3.2.1.12 9222-008050 Starting air diagram
- 3.2.1.13 Alco weights
- 3.2.1.14 CCGS Amundsen Final Manual\_4-5-13
- 3.2.1.15 Amundsen\_log\_1977
- 3.2.1.16 Amundsen Engine #1 Test Logs
- 3.2.1.17 DP4 Pictures

### **3.3 Technical description**

#### **3.3.1 General information**

- 3.3.1.1 The Contractor should note that similar work was performed in 2010 on ME #5 of CCGS Amundsen. The 2010 project's plans and specifications are given as a reference in the present statement of requirements. These plans and specifications are given as a reference only and the Contractor is responsible for the solution chosen to meet the requirement stated in the present statement of work.
- 3.3.1.2 All work on the diesel engine must be performed in compliance with the latest maintenance instructions and bulletins of Fairbanks Morse.

#### **3.3.2 Engineering**

- 3.3.2.1 The Contractor is responsible for performing all engineering for the replacement of diesel propulsion engine #4. The Contractor must provide all specifications and production drawings demonstrating the hole in the hull, the route taken for the transportation of parts, lifting and handling equipment.
- 3.3.2.2 Work must be planned to minimize the time in which there is an opening in the hull.
- 3.3.2.3 Production drawings and specifications must be approved by an engineer.

- 3.3.2.4 The production drawings and specifications must be submitted for approval to the IA, TA and TCMS inspector at least 10 days prior to the start of work.
- 3.3.2.5 The Contractor must provide the welding procedures for all components used to lift parts and for the welding of the hull/deck plates at least 3 days prior to the start of work.
- 3.3.2.6 The Contractor must perform ultrasonic NDT on 100% of the hull and deck welds. Quality control of the welding through ultrasonic NDT must be conducted by a Level 2 UT technician certified by NRCan.

### **3.3.3 Field Service Representative of the manufacturer, Fairbanks Morse**

- 3.3.3.1 The Contractor must retain the services of an FSR of the Alco 251F engine manufacturer.
- 3.3.3.2 The FSR's mandate will be to:
  - 3.3.3.2.1 Inspect all components of the DP#4 engine and validate that they comply with the requirements and manufacturing drawings of the OEM;
  - 3.3.3.2.2 Advise and supervise the contractor when handling the engine block and crankshaft to prevent damage to the engine parts.
  - 3.3.3.2.3 With the general contractor, check that the engine base flatness and straightness to ensure exact alignment of the crankshaft.
  - 3.3.3.2.4 The FSR shall demonstrate that the alignment of the motor-alternator complies with OEM requirements.
  - 3.3.3.2.5 The FSR shall demonstrate that the alignment of the motor-alternator complies with OEM requirements.

### **3.3.4 Disassembly and reassembly of existing equipment**

- 3.3.4.1 The ME#4 Alco 251F diesel engine will be fully disassembled and reassembled by the ship's crew.
- 3.3.4.2 The following disassembly work will be undertaken by the Contractor under the supervision of the OEM FSR:
  - 3.3.4.2.1 Manufacture and install a support apparatus at the end of the generator engine;
  - 3.3.4.2.2 Before disconnection, alignment measurements must be taken at the engine/alternator coupling;
  - 3.3.4.2.3 Disconnect the engine from the generator;
  - 3.3.4.2.4 Remove the flywheel
  - 3.3.4.2.5 Unbolt the engine block from its base;
  - 3.3.4.2.6 Raise the engine block and rotate 180° along its longitudinal axis. Lower the engine block onto wooden blocks, on the engine base. Special care must be taken to ensure that the studs of the cylinder head are removed before turning the engine block;
  - 3.3.4.2.7 Unbolt the main bearings, lift the crankshaft and lower it onto the temporary supports as specified by the FSR;

- 3.3.4.2.8 Manufacture and supply the crankshaft supports;
- 3.3.4.2.9 Remove engine block #4 from the ship;
- 3.3.4.2.10 Once the engine block leaves the ship, the Contractor must check the straightness and flatness of the engine base. This work must be performed by a company specializing in laser alignment measurement. This same company must also have the capacity to do the machining of the engine base to restore its flatness and redo the bore of the diesel engine's shaft.
- 3.3.4.3 The following components of the engine will be dismantled and reassembled by the crew:
  - 3.3.4.3.1 Gears (fore end)
  - 3.3.4.3.2 Cam shaft
  - 3.3.4.3.3 Power units (rod, piston, heads and liners)
  - 3.3.4.3.4 Raw water and fresh water pumps, lubricating oil pump and fuel oil pump
  - 3.3.4.3.5 Turbo-compressor, aftercooler and exhaust manifold
  - 3.3.4.3.6 Governor
  - 3.3.4.3.7 Auxiliary equipment's: crankcase fan, overspeed trip, probe, gauge, filters, etc.
- 3.3.4.4 The following circuits of the diesel engine will be disassembled and reassembled by the crew. The crew will seal the conduits:
  - 3.3.4.4.1 Diesel engine jacket water circuit
  - 3.3.4.4.2 Diesel engine lube oil circuit
  - 3.3.4.4.3 Diesel engine fuel oil circuit
  - 3.3.4.4.4 Starting air circuit
  - 3.3.4.4.5 Electrical circuit
  - 3.3.4.4.6 Exhaust circuit before the turbocharger
- 3.3.4.5 The exhaust circuits after the turbocharger and all ventilation circuits will be disassembled, stored and reassembled by the Contractor in their original state following the work. The exhaust pipe insulation may contain and may release refractory ceramic fibre particles that are harmful to health. The Contractor's employees must use, at a minimum, a half mask with a P100 filter when handling exhaust coverings.
- 3.3.4.6 All conduits, electrical wires or equipment not specified in these specifications that must be disassembled in order to remove the engine block will be the responsibility of the Contractor.
- 3.3.4.7 The two lift beams bolted above ME#4 must be disassembled by the Contractor to allow handling of the engine block. The beams will be reassembled after the work.
- 3.3.4.8 The 3 potable water pipes must be disassembled and then reassembled following the work.
- 3.3.4.9 Storage cabinets and other interferences on the lower deck of the engine room must be

carefully moved for the duration of the work and returned to their original state after the work.

- 3.3.4.10 The Contractor must install protection for the remaining wall panels, ceilings and floors in the work area.
- 3.3.4.11 The Contractor must install a temporary waterproof tarp to plug the hole in the hull between the operations for the removal of the old engine block and entry of the new block.
- 3.3.4.12 The Contractor must provide a temporary lighting system on the main deck and in the engine room.
- 3.3.4.13 Fixed furniture's, doors, wall panels, and ceilings dismantled by the Contractor must be carefully moved to a dry place, protected from any damage. Fixed furniture's, wall panels, and ceiling must be reassembled after the work.
- 3.3.4.14 The Contractor must provide a price for the replacement of a surface of 135 ft<sup>2</sup> and a thickness of 2 inches of thermal insulation on the main deck on the side of the engine room. The Contractor must provide a price for the replacement of a surface of 72 ft<sup>2</sup> and a thickness of 4 inches of thermal insulation on the hull in the accommodations. The thermal insulation must be new and be Roxul brand RHT 60 insulation or equivalent. It must have a thermal performance equal to or greater than 0.75 m<sup>2</sup>K/W. Insulation must be non-combustible, water repellent and designed for high temperature applications. The total surface must take into account the presence of the 18-inch spaced stiffeners (angle irons) of the structure. The insulation must be covered by an aluminium vapour barrier. The joints between the sheets of insulation must be sealed with three-inch (76.2-mm) wide aluminium tape. The Contractor must install an insulation attachment system using nails welded to the steel sheet. Insulation must be attached using new nails and washers. The insulation must be covered by aluminium mesh in the engine room.
- 3.3.4.15 The A-60 insulation of the main deck contains asbestos. This insulation must be removed without risk to the health of workers and ship personnel. Handling of materials containing asbestos must be done in compliance with the standards and regulations in force. The Contractor must provide a price for the replacement of 135 ft<sup>2</sup> of A-60 insulation with a thickness of 3 inches. The new A-60 insulation product must be approved by a classification society recognized by the DSIP and compatible with the existing cement.
- 3.3.4.16 The Contractor must provide a price for the supply and installation of 12 new Ayr-lite 2054 wall panels or equivalent. The thickness of the wall panel is 3/4 inch. The colours of the panels will be determined once the contract is awarded. The wall panels must be approved by a classification society recognized by the DSIP. This item is optional.
- 3.3.4.17 The Contractor must provide a price for replacement of 32 ft<sup>2</sup> of passageway floor tiles. The underlay, cement and glue must be approved by a classification society recognized by the DSIP. The new tiles must be Armstrong Excelon, or equivalent. The colours of the tiles will be determined once the contract is awarded.
- 3.3.4.18 The Contractor must provide a price for replacement of 270 ft<sup>2</sup> of cabin flooring. The underlay, cement and glue must be approved by a classification society recognized by the DSIP. The new floor covering will be Armstrong PREMIUM G 6210 linoleum or

equivalent. The colours of the linoleum will be determined upon contract award.

3.3.4.19 The following work for the reassembly and recommissioning of the diesel engine will be undertaken by the Contractor under the supervision of the FSR from Fairbanks Morse:

3.3.4.19.1 The new engine block will be delivered to a place on the dock near the ship. The Contractor will not have to do work on the block prior to it being placed in the aft engine room, with the exception of the installation of supports used for ship handling.

3.3.4.19.2 Using hoisting equipment, perform the necessary manoeuvres to bring the new engine block to its base in the aft engine room of the ship. Place the engine block on the wooden blocks in a position that allows installation of the crankshaft. It is important that these rigging and hoisting operations be performed by qualified personnel to prevent damaging the engine block on its way into the ship.

3.3.4.19.3 Install the caps of the main bearings without the crankshaft. The engine block will then be bolted directly onto its base without its crankshaft in order to check the alignment of the main bearings. Alignment of the crankshaft line will be laser checked by the company indicated in 1.3.4.3.9.

3.3.4.19.4 Remove the caps from the main bearings. Unbolt the engine block and place the block in a safe position in order to install the crankshaft. Install the crankshaft and the vibration damper. The FSR shall measure the dimensions of the main bearings shells to confirm that they comply with the OEM requirements.

3.3.4.19.5 Turn the cylinder block, once deep cleaned (engine base to be cleaned also), apply sealant to the contact surfaces and attach the engine block to its base.

3.3.4.19.6 Install the flywheel and measure the alignment in accordance with the Generator Mountings Instructions 5222-008040 and the generator connection 5227-008080. The timing pointer position, the deflexion, the run-out and the backlash readings shall be logged in the report. Connect the engine to its generator and remove the generator support apparatus.

3.3.4.19.7 Measure the deflection of the crankshaft and note the readings in the work report. The measurements must comply with the tolerances established by the manufacturer. Carry out a bump test on every main bearing.

### **3.4 Proof of performance**

#### **3.4.1 Inspection**

3.4.1.1 All work governed by the Canada Shipping Act and its regulations must be approved by TCMS or, if applicable, the classification society.

#### **3.4.2 Dockside testing**

3.4.2.1 All equipment reinstalled in the ship, such as engine #4, the exhaust line, lighting, ventilation conduits, doors and heating equipment will undergo dockside testing. The Contractor must provide a list of the equipment that will be dismantled and reinstalled

for testing and approval by the Technical Authority.

### **3.4.3 Deliverable documents**

- 3.4.3.1 The Contractor must provide a complete report of the work. The report must include the quality control plan duly completed by the Contractor and signed by the CCG.
- 3.4.3.2 The manufacturer's representative from Fairbanks Morse must provide a complete report of the work. The report must contain all readings (dimensionals, clearance, calibration) required by the manufacturer during the works.