



## RETURN BIDS TO:

## RETOURNER LES SOUMISSIONS À:

Réception des soumissions - TPSGC / Bid

Receiving - PWGSC

1550, Avenue d'Estimauville

1550, D'Estimauville Avenue

Québec

Québec

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> General Work - Sorel (Fleet)	
<b>Solicitation No. - N° de l'invitation</b> F3065-15N206/A	<b>Date</b> 2015-12-08
<b>Client Reference No. - N° de référence du client</b> F3065-15N206	<b>GETS Ref. No. - N° de réf. de SEAG</b> PW-\$QCL-036-16630
<b>File No. - N° de dossier</b> QCL-5-38205 (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 2016-01-07</b>	
<b>Time Zone</b> <b>Fuseau horaire</b> Heure Normale du l'Est HNE	
<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> NGCC FCG SMITH, LEIM ÎLE SAINT-SOURS ET GARDE-CÔTE 03 PÊCHES ET OCÉANS CANADA - GARDE CÔTIÈRE 101 BOUL.CHAMPLAIN R.C. QUEBEC Québec G1K 7Y7 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</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

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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 repair work regarding the Canadian Coast Guard Ships (C.C.G.S.) F.C.G SMITH, (C.C.G.S.) LEIM, (C.C.G.S.) ILE SAINT OURS and (C.C.G.S.) GARDE-COTE 03, during the winter layout at Fisheries and Oceans Canada – Coast Guard Wharf, at 15, du Prince Street, Sorel-Tracy (QC) J3P 4J4, 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.
- c) 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 Agreement on Internal Trade (AIT).

### 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 (2015-07-03) 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.

### **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.

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## **2.5 Bidders' Conference (Not mandatory)**

A bidders' Conference chaired by the Contracting Authority will be convened on board vessel CCGS FCG Smith at 10:00 am, December 16<sup>th</sup>, 2015. The vessel will be moored at Fisheries and Oceans Canada – Coast Guard Wharf, at 15, du Prince Street, Sorel-Tracy (QC) J3P 4J4.

It is recommended that the Bidder or a representative of the Bidder attend the Bidders' Conference in order to review the Scope of the Work required and to receive additional information and clarifications. Bidders are to communicate with the Contracting Authority prior to the conference to confirm attendance. Bidders that do not attend are not precluded from submitting a bid. Bidders are to provide the Contracting Authority with the names of their representatives no later than two days prior to the conference. The Contracting Authority will have an attendance form which is to be signed by the Bidder's representative(s) in attendance. Bidders are advised that any clarifications or changes resulting from the Bidder's conference and/or the subsequent viewing of the vessel, shall be included as an amendment to the bid solicitation document.

## **2.6 Viewing - Vessel (Not mandatory)**

A site visit will be held immediately after the bidders' conference.

## **2.7 Proposed Work Period**

Work is to commence and be completed as follows:

Start of work:	January 27 <sup>th</sup> , 2016 or as per ship's availability. (At the earlier date.)
End of work:	April 8 <sup>th</sup> , 2016 or ten (10) weeks after ship's availability. (At the earlier date.)
See trials:	Beginning of April 2016.

The vessel's respective working dates are as follow:

Vessel's mobilisation:

- 1) Leim: from January 27<sup>th</sup> to February 24<sup>th</sup> and from March 23<sup>rd</sup> to April 2<sup>nd</sup>. (29 days)
- 2) Ile Saint-Ours: from February 1<sup>st</sup> to February 12<sup>th</sup> and from April 4<sup>th</sup> to April 8<sup>th</sup>. (15 days)
- 3) GC-03: from February 1<sup>st</sup> to February 19<sup>th</sup> and from March 28<sup>th</sup> to April 1<sup>st</sup>. (20 days)
- 4) FCG Smith: from February 1<sup>st</sup> to February 19<sup>th</sup> and from March 28<sup>th</sup> to April 1<sup>st</sup>. (20 days)

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.

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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 SACC Manual Clause**

C0417T (2008-05-12) Unscheduled Work and Evaluation Price



## 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

Item	Description	Completed and Attached
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:

Item	Description	Completed and Attached
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

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#### 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	Functional Fire detection or extinguishing systems certification	Prior to end of contract

#### 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.

#### 4.3 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 (EDST) 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

### 5.1 Generality

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

The certifications provided by bidders to Canada are subject to verification by Canada at all times. 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 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 with this request will also render the bid non-responsive or will constitute a default under the Contract.

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

#### 5.2.1 Code of Conduct and Certifications - Related documentation

By submitting a bid, the Bidder certifies that the Bidder and its affiliates are in compliance with the provisions as stated in Section 01 Code of Conduct and Certifications - Bid of Standard Instructions 2003. The related documentation therein required will assist Canada in confirming that the certifications are true.

#### 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](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list ([http://www.labour.gc.ca/eng/standards\\_equity/eq/emp/fcp/list/inelig.shtml](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)) available from [Human Resources and Skills Development Canada \(HRSDC\) - Labour's](#) website.

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.

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](#)" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

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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

At bids closing date the Bidder 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 *(Not used)*

### 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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## PART 7 - RESULTING CONTRACT CLAUSES

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

### 1. Requirement

- a) To carry out the ship repair work regarding the Canadian Coast Guard Ships (C.C.G.S.) F.C.G SMITH, (C.C.G.S.) LEIM, (C.C.G.S.) ILE SAINT OURS and (C.C.G.S.) GARDE-COTE 03, during the winter layout at Fisheries and Oceans Canada – Coast Guard Wharf, at 15, du Prince Street, Sorel-Tracy (QC) J3P 4J4, 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 (2015-09-03), 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

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#### **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 of work: January 27<sup>th</sup>, 2016 or as per ship's availability. (At the earlier date.)  
End of work: April 8<sup>th</sup>, 2016 or ten (10) weeks after ship's availability. (At the earlier date.)  
See trials: Beginning of April 2016.

The vessel's respective working dates are as follow:

Vessel's mobilisation:

- 1) Leim: from January 27<sup>th</sup> to February 24<sup>th</sup> and from March 23<sup>rd</sup> to April 2<sup>nd</sup>. (29 days)
- 2) Ile Saint-Ours: from February 1<sup>st</sup> to February 12<sup>th</sup> and from April 4<sup>th</sup> to April 8<sup>th</sup>. (15 days)
- 3) GC-03: from February 1<sup>st</sup> to February 19<sup>th</sup> and from March 28<sup>th</sup> to April 1<sup>st</sup>. (20 days)
- 4) FCG Smith: from February 1<sup>st</sup> to February 19<sup>th</sup> and from March 28<sup>th</sup> to April 1<sup>st</sup>. (20 days)

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  
Chef aux approvisionnements Marine / Marine Supply Chief  
Travaux publics et Services gouvernementaux Canada / Public Works and Government Services Canada  
Région du Québec/Québec area  
Division marine /marine division  
1550, avenue D'Estimauville, Québec, (Québec) G1J 0C4,  
Quebec, Canada  
[mathieu.gagnon@tpsgc-pwgsc.gc.ca](mailto:mathieu.gagnon@tpsgc-pwgsc.gc.ca)  
Téléphone/phone: (418) 649-2883  
Télécopieur/Fax: (418) 648-2209

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.

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## 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.

## 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.

## 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.

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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 SACC Manual Clauses**

SACC Manual Clause C6000C (2011-05-16)  
SACC Manual Clause H4500C (2010-01-11)

Limitation of Price  
Lien - Section 427 of the Bank Act

## **7. Invoicing Instructions**

### **7.1 Submitting of invoices**

The Contractor must submit invoices in accordance with the information required in Section 13 of 2030, (2015-09-03), General Conditions - Higher Complexity - Goods

### **7.2 Invoice**

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

Invoice to be made to the name of:

[DFOinvoicing-MPOfacturation@dfo-mpo.gc.ca](mailto:DFOinvoicing-MPOfacturation@dfo-mpo.gc.ca)

Michelle Turcotte – Tel. 418 648-5930

Mailing Address :

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

Electronic copy to be sent for verification to:

[mathieu.gagnon@tpsgc-pwgsc.gc.ca](mailto:mathieu.gagnon@tpsgc-pwgsc.gc.ca)

#### **7.2.2 Coding of invoices**

Invoices are to be codified for each vessels in respect of the following financial codification:

FCG Smith: C96A0-T51-213-0604-VRBA3  
Leim: C96A0-T51-213-0604-VHAD3  
Ile Saint-Ours: C96A0-T51-213-0604-VPCE3  
Garde-Côte 03: C96A0-T51-213-0604-VRBC3



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### **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, (2015-09-03) - 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.

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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.

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

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**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 non compliance 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:**

The Contractor must, upon request, provide a price breakdown for all unscheduled work, by specific activities with trades, person-hours, material, subcontracts and 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: Inspection/Test *(Not used)***

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

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

The Contractor shall 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 shall 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 Contractor's facility **two (2)** working days before the commencement of the work period.

**32. Meetings**

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.

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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.
  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.

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**ANNEX A**

**REQUIREMENT - SPECIFICATION**

**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>B)</b>	<b>Applicable taxes</b> _____ % :	\$ _____
<b>C)</b>	<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 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 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.

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### 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

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

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.

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- (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.

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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 (2014-09-25) 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 manhours 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 manhours 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 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.

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## Appendix 1 of Annexe 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

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

#### 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

Date of Corrective Action - Date de modalité de reprise

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Client Name and Signature - Nom et signature de client

Date

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

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Signature – Signature

Date



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**ANNEX F**

**VESSEL CUSTODY**

**(NOT USED)**

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**Annex G**

**SECURITY REQUIREMENTS CHECK LIST**

**(NOT USED)**

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**ANNEX 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 2a, 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: 1000 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.

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### 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.

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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 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.

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

Not used

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#### APPENDIX 1 OF ANNEX I

PRICE PER ITEM SHEETS		
Item	Description – A) SCHEDULED WORK	Fixed Price
1.	General remarks	\$ _____
4.10	C.C.G.S. LEIM – Safety and Security Equipment	\$ _____
4.14	C.C.G.S. LEIM – Power Distribution	\$ _____
4.15	C.C.G.S. LEIM – Auxiliary Systems	\$ _____
4.16	C.C.G.S. LEIM – Domestic Systems	\$ _____
5.10	C.C.G.S. ILE ST OURS – Safety and Security Equipment	\$ _____
5.12	C.C.G.S. ILE ST OURS – Propulsion and Manoeuvring Systems	\$ _____
5.13	C.C.G.S. ILE ST OURS – Vessel's Generation of Electrical Power	\$ _____
5.14	C.C.G.S. ILE ST OURS – Power Distribution	\$ _____
5.15	C.C.G.S. ILE ST OURS – Auxiliary Systems	\$ _____
5.16	C.C.G.S. ILE ST OURS – Domestic Systems	\$ _____
6.10	C.C.G.S. GARDE-CÔTE 03 – Safety and Security Equipment	\$ _____
6.11	C.C.G.S. GARDE-CÔTE 03 – Hull and Related Structure	\$ _____
6.14	C.C.G.S. GARDE-CÔTE 03 – Power Distribution	\$ _____
7.10	C.C.G.S. FCG SMITH – Safety and Security Equipment	\$ _____
7.12	C.C.G.S. FCG SMITH – Propulsion and Manoeuvring Systems	\$ _____
7.13	C.C.G.S. FCG SMITH – Vessel's Generation of Electrical Power	\$ _____
7.14	C.C.G.S. FCG SMITH – Power Distribution	\$ _____
7.15	C.C.G.S. FCG SMITH – Auxiliary Systems	\$ _____
7.16	C.C.G.S. FCG SMITH – Domestic Systems	\$ _____
A) SCHEDULED WORK - TOTAL FIRM 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.

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## ANNEX J

PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
<b>1</b>	<b>General Remarks</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>4</b>	<b>CCGS LEIM</b>	
<b>4.10</b>	<b>Safety and Security Equipment</b> (Overheads fees related to this item must be distributed in each sub items.)	
	<b>4.10.1 Inspection of portable fire extinguishers</b>  Provide a price for known extinguishers (based due dates provided in the list). Unit prices for additional extinguishers are to be included in section B) Optional Work.  Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X ____ hours = \$ _____  <b>Total for item 4.10.1 : \$ _____</b>	
	<b>4.10.2 Fire detection system</b>  Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X ____ hours = \$ _____  <b>Total for item 4.10.2 : \$ _____</b>	
	<b>4.10.3 Annual inspection of fixed fire suppression system</b>  Provide a price for known extinguishers (based due dates provided in the list). Unit prices for additional extinguishers are to be included in section B) Optional Work.  Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X ____ hours = \$ _____  <b>Total for item 4.10.3 : \$ _____</b>	
	<b>4.10.4 Annual inspection of rescue boat davit</b>  Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X ____ hours = \$ _____  <b>Total for item 4.10.4 : \$ _____</b> <b>Total for 4.10 : \$ _____</b>	
<b>4.14</b>	<b>Power Distribution</b> (Overheads fees related to this item must be distributed in each sub items.)	
	<b>4.14.1 Ground fault problem (32 hours)</b>  Cost of Megger test= \$ _____ (Including mobilisation/demobilisation, material equipment and labour)  Hourly rate for corrections(Final amount prorated) Hourly rate ; \$ _____ /hour X 10 hours = \$ _____  <b>Total for item 4.14.1 : \$ _____</b>	\$ _____



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PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
	4.14.2 Tightening of all distribution panel terminal blocks (32 hours)  Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ ((Final amount prorated) Labour ; \$ _____ /hour X 32 hours = \$ _____  <b>Total for item 4.14.2 : \$ _____</b>	
	<b>Total for 4.14 : \$ _____</b>	
<b>4.15</b>	<b>Auxiliary Systems</b> (Overheads fees related to this item must be distributed in each sub items.) 5.15.1 Fuel transfer pumps maintenance  Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X ____ hours = \$ _____  <b>Total for item 4.15.1 : \$ _____</b>	
	<b>Total for 4.15 : \$ _____</b>	
<b>4.16</b>	<b>Domestic Systems</b> (Overheads fees related to this item must be distributed in each sub items.) 4.16.1 Annual inspection of heating, ventilation, air conditioning and refrigeration systems  Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X ____ hours = \$ _____  <b>Total for item 4.16.1 : \$ _____</b>	
	<b>Total for 4.16 : \$ _____</b>	
<b>ITEM 4 – TOTAL FIRM PRICE FOR THE CCGS LEIM =</b>		<b>\$ _____</b>

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PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
<b>5</b>	<b>CCGS ILE SAINT OURS</b>	
<b>5.10</b>	<p><b>Safety and Security Equipment</b> (Overheads fees related to this item must be distributed in each sub items.)</p> <p>5.10.1 Inspection of portable fire extinguishers</p> <p>Provide a price for known extinguishers (based due dates provided in the list). Unit prices for additional extinguishers are to be included in section B) Optional Work.</p> <p>Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X ____ hours = \$ _____</p> <p><b>Total for item 5.10.1 : \$ _____</b></p> <p>5.10.2 Annual inspection of fixed fire suppression system</p> <p>Provide a price for known extinguishers (based due dates provided in the list). Unit prices for additional extinguishers are to be included in section B) Optional Work.</p> <p>Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X ____ hours = \$ _____</p> <p><b>Total for item 5.10.2 : \$ _____</b></p> <p><b>Total for 5.10 : \$ _____</b></p>	
<b>5.12</b>	<p><b>Propulsion and Manoeuvring System</b> (Overheads fees related to this item must be distributed in each sub items.)</p> <p>5.12.1 Annual maintenance of main engines</p> <p>Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X ____ hours = \$ _____</p> <p><b>Total for item 5.12.1 : \$ _____</b></p> <p><b>Total for 5.12 : \$ _____</b></p>	
<b>5.13</b>	<p><b>Vessel's Generation of Electrical Power</b> (Overheads fees related to this item must be distributed in each sub items.)</p> <p>5.13.1 Annual maintenance of generators</p> <p>Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X ____ hours = \$ _____</p> <p><b>Total for item 5.13.1 : \$ _____</b></p> <p><b>Total for 5.13 : \$ _____</b></p>	
<b>5.14</b>	<p><b>Power Distribution</b> (Overheads fees related to this item must be distributed in each sub items.)</p> <p>5.14.1 Megger test (24 heures)</p> <p>Cost of Megger test= \$ _____ (Including mobilisation/demobilisation, material equipment and labour)</p> <p>Hourly rate for corrections(Final amount prorated) Hourly rate ; \$ _____ /hour X 10 hours = \$ _____</p> <p><b>Total for item 5.14.1 : \$ _____</b></p> <p><b>Total for 5.14 : \$ _____</b></p>	

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PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
5.15	Auxiliary Systems (Overheads fees related to this item must be distributed in each sub items.)	
	5.15.1 Annual maintenance of hydraulic unit	
	<div style="text-align: right;"> Mobilisation / Demobilisation = \$ _____  Materials, equipment and consumables = \$ _____  Labour ; \$ _____ /hour X ____ hours = \$ _____  <b>Total for item 5.15.1 : \$ _____</b> </div>	
<b>Total for 5.15 :</b>		<b>\$ _____</b>
5.16	Domestic Systems (Overheads fees related to this item must be distributed in each sub items.)	
	5.16.1 Annual inspection of heating, ventilation, air conditioning and refrigeration systems	
	<div style="text-align: right;"> Mobilisation / Demobilisation = \$ _____  Materials, equipment and consumables = \$ _____  Labour ; \$ _____ /hour X ____ hours = \$ _____  <b>Total for item 5.16.1 : \$ _____</b> </div>	
<b>Total for 5.16 :</b>		<b>\$ _____</b>
<b>ITEM 5 – TOTAL FIRM PRICE FOR THE CCGS ILOE SAINT OURS =</b>		<b>\$ _____</b>

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PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
<b>6</b>	<b>CCGS GARDE-CÔTE 03</b>	
<b>6.10</b>	<p><b>Safety and Security Equipment</b> (Overheads fees related to this item must be distributed in each sub items.)</p> <p><b>6.10.1 Portable fire extinguishers</b></p> <p>Provide a price for known extinguishers (based due dates provided in the list). Unit prices for additional extinguishers are to be included in section B) Optional Work.</p> <p>Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____</p> <p><b>Total for item 6.10.1 : \$ _____</b></p> <p><b>6.10.2 Fire detection system</b></p> <p>Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____</p> <p><b>Total for item 6.10.2 : \$ _____</b></p> <p><b>6.10.3 Annual inspection of fixed fire suppression system</b></p> <p>Provide a price for known extinguishers (based due dates provided in the list). Unit prices for additional extinguishers are to be included in section B) Optional Work.</p> <p>Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____</p> <p><b>Total for item 6.10.3 : \$ _____</b></p> <p><b>Total for 6.10 : \$ _____</b></p>	
<b>6.11</b>	<p><b>Hull and Related Structure</b> (Overheads fees related to this item must be distributed in each sub items.)</p> <p><b>6.11.1 Replacement of 24 linear feet of bulwark</b></p> <p>Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____</p> <p><b>Total for item 6.11.1 : \$ _____</b></p> <p><b>6.11.2 Remplacer le support du mat de drapeau</b></p> <p>Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____</p> <p><b>Total for item 6.11.2 : \$ _____</b></p> <p><b>6.11.3 Réparation sur le réservoir de carburant bâbord avant</b></p> <p>Mobilisation / Demobilisation = \$ _____ Materials, equipment and consumables = \$ _____ Labour ; \$ _____ /hour X _____ hours = \$ _____</p> <p><b>Total for item 6.11.3 : \$ _____</b></p> <p><b>Total for 6.11 : \$ _____</b></p>	

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PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
6.14	Power Distribution (Overheads fees related to this item must be distributed in each sub items.)	
	6.14.1 Megger test	
	<div style="text-align: right;">Cost of Megger test= \$ _____</div> <div style="text-align: right;">(Including mobilisation/demobilisation, material equipment and labour)</div> <div style="text-align: right;">Hourly rate for corrections(Final amount prorated)</div> <div style="text-align: right;">Hourly rate ; \$ _____/hour X 10 hours = \$ _____</div> <div style="text-align: right;">Total for item 6.14.1 : \$ _____</div>	
	<b>Total for 6.14 : \$ _____</b>	
ITEM 6 – TOTAL FIRM PRICE FOR THE CCGS GARDE COTE 03 =		\$ _____

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PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
<b>7</b>	<b>CCGS FCG SMITH</b>	
<b>7.10</b>	<b>Safety and Security Equipment</b> (Overheads fees related to this item must be distributed in each sub items.) <b>7.10.1 Fire extinguisher and Galley fixed fire suppression system certification</b>  Provide a price for known extinguishers (based due dates provided in the list). Unit prices for additional extinguishers are to be included in section B) Optional Work.  <div style="text-align: right;">             Mobilisation / Demobilisation = \$ _____              Materials, equipment and consumables = \$ _____              Labour ; \$ _____ /hour X _____ hours = \$ _____           </div> <div style="text-align: right;"><b>Total pour article 7.10.1 : \$ _____</b></div>	
	<b>7.10.2 Annual inspection of fixed fire suppression system</b>  Provide a price for known extinguishers (based due dates provided in the list). Unit prices for additional extinguishers are to be included in section B) Optional Work.  <div style="text-align: right;">             Mobilisation / Demobilisation = \$ _____              Materials, equipment and consumables = \$ _____              Labour ; \$ _____ /hour X _____ hours = \$ _____           </div> <div style="text-align: right;"><b>Total for item 7.10.2 : \$ _____</b></div>	
	<b>7.10.3 Electric Fire pump</b>  <div style="text-align: right;">             Mobilisation / Demobilisation = \$ _____              Materials, equipment and consumables = \$ _____              Labour ; \$ _____ /hour X _____ hours = \$ _____           </div> <div style="text-align: right;"><b>Total for item 7.10.3 : \$ _____</b></div>	
	<b>7.10.4 Fire pump connected to the propulsion engine</b>  <div style="text-align: right;">             Mobilisation / Demobilisation = \$ _____              Materials, equipment and consumables = \$ _____              Labour ; \$ _____ /hour X _____ hours = \$ _____           </div> <div style="text-align: right;"><b>Total for item 7.10.4 : \$ _____</b></div>	
	<b>Total pour 7.10 : \$ _____</b>	
<b>7.12</b>	<b>Propulsion and Manoeuvring Systems</b> (Overheads fees related to this item must be distributed in each sub items.) <b>7.12.1 Starboard propulsion reducers</b>  <div style="text-align: right;">             Mobilisation / Demobilisation = \$ _____              Materials, equipment and consumables = \$ _____              Labour ; \$ _____ /hour X _____ hours = \$ _____           </div> <div style="text-align: right;"><b>Total for item 7.12.1 : \$ _____</b></div>	
	<b>7.12.2 Hydraulic pump of Steering Gear System</b>  <div style="text-align: right;">             Mobilisation / Demobilisation = \$ _____              Materials, equipment and consumables = \$ _____              Labour ; \$ _____ /hour X _____ hours = \$ _____           </div> <div style="text-align: right;"><b>Total for item 7.12.2 : \$ _____</b></div>	
	<b>7.12.3 Annual maintenance of main engines</b>  <div style="text-align: right;">             Mobilisation / Demobilisation = \$ _____              Materials, equipment and consumables = \$ _____              Labour ; \$ _____ /hour X _____ hours = \$ _____           </div> <div style="text-align: right;"><b>Total for item 7.12.3 : \$ _____</b></div>	
	<b>Total for 7.12 : \$ _____</b>	

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PRICING DATA SHEETS		
Item	Description – A) SCHEDULED WORK	Firm Price
7.13	Vessel's Generation of Electrical Power (Overheads fees related to this item must be distributed in each sub items.)	
	7.13.1 Port side alternator	
	<div>Mobilisation / Demobilisation = \$ _____</div> <div>Materials, equipment and consumables = \$ _____</div> <div>Labour ; \$ _____ /hour X _____ hours = \$ _____</div> <div>Total for item 7.13.1 : \$ _____</div>	
	7.13.2 Starboard alternator	
	<div>Mobilisation / Demobilisation = \$ _____</div> <div>Materials, equipment and consumables = \$ _____</div> <div>Labour ; \$ _____ /hour X _____ hours = \$ _____</div> <div>Total for item 7.13.2 : \$ _____</div>	
<b>Total for 7.13 : \$ _____</b>		
7.14	Power Distribution (Overheads fees related to this item must be distributed in each sub items.)	
	7.14.1 Megger test	
	<div>Cost of Megger test= \$ _____</div> <div>(Including mobilisation/demobilisation, material equipment and labour)</div> <div>Hourly rate for corrections(Final amount prorated)</div> <div>Hourly rate ; \$ _____ /hour X 10 hours = \$ _____</div> <div>Total for item 7.14.1 : \$ _____</div>	
<b>Total for 7.14 : \$ _____</b>		
7.15	Auxiliary Systems (Overheads fees related to this item must be distributed in each sub items.)	
	7.15.1 Électrique bilge pump	
	<div>Mobilisation / Demobilisation = \$ _____</div> <div>Materials, equipment and consumables = \$ _____</div> <div>Labour ; \$ _____ /hour X _____ hours = \$ _____</div> <div>Total for item 7.15.1 : \$ _____</div>	
	7.15.2 Electrique bilge pump connected to main engine	
	<div>Mobilisation / Demobilisation = \$ _____</div> <div>Materials, equipment and consumables = \$ _____</div> <div>Labour ; \$ _____ /hour X _____ hours = \$ _____</div> <div>Total for item 7.15.2 : \$ _____</div>	
<b>Total for 7.15 : \$ _____</b>		
7.16	Domestic Systems (Overheads fees related to this item must be distributed in each sub items.)	
	7.16.1 Annual inspection of heating, ventilation, air conditioning and refrigeration systems	
	<div>Mobilisation / Demobilisation = \$ _____</div> <div>Materials, equipment and consumables = \$ _____</div> <div>Labour ; \$ _____ /hour X _____ hours = \$ _____</div> <div>Total for item 7.16.1 : \$ _____</div>	
<b>Total for 7.16 : \$ _____</b>		
<b>ITEM 7 – TOTAL FIRM PRICE FOR THE CCGS FCG SMITH = \$ _____</b>		

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PRICING DATA SHEETS		
Item	Description – B) OPTIONAL WORK	Firm Price
4, 5, 6 & 7	<b>CCGS LEIM, CCGS ILE SAINT OURS, CCGS GARDE-COTE 03 &amp; CCGS FCG SMITH</b>	
4.10, 5.10, 6.10 & 7.10	<p><b>Safety and Security Equipment</b> (Overheads fees related to this item must be distributed in each sub items.)</p> <p>Inspection of Fire extinguisher and fixed fire suppression systems – Refilling of cylinders and additional hydrostatic tests. (Price for quantities from 1 to 5 each – Final amount to be prorated)</p> <p><u>Refilling of extinguishers</u></p> <p>extinguishers 2.75 lbs ABC; _____ \$ X 5 extinguishers = _____ \$  extinguishers 5 lbs ABC; _____ \$ X 5 extinguishers = _____ \$  extinguishers 10 lbs ABC; _____ \$ X 5 extinguishers = _____ \$  extinguishers 20 lbs ABC; _____ \$ X 5 extinguishers = _____ \$  extinguishers 20 lbs BC; _____ \$ X 5 extinguishers = _____ \$  extinguishers 5 lbs CO<sub>2</sub>; _____ \$ X 5 extinguishers = _____ \$  extinguishers 10 lbs CO<sub>2</sub>; _____ \$ X 5 extinguishers = _____ \$  extinguishers 15 lbs CO<sub>2</sub>; _____ \$ X 5 extinguishers = _____ \$  extinguishers 20 lbs CO<sub>2</sub>; _____ \$ X 5 extinguishers = _____ \$  extinguishers 6 litres de mousse type K; _____ \$ X 5 extinguishers = _____ \$</p> <p><u>Hydrostatic tests</u></p> <p>on cylinder 9.2.1 AFFF; _____ \$ X 5 tests = _____ \$  low pressure on cylinders powder 2.5 to 30 lbs; _____ \$ X 5 tests = _____ \$  High pressure on cylinder CO<sub>2</sub>; _____ \$ X 5 tests = _____ \$  on cylinders foam type K; _____ \$ X 5 tests = _____ \$</p> <p><b>Total pour article 7.10.1 : \$ _____</b></p> <p>7.10.2 Annual inspection of fixed fire suppression system – Refilling of cylinders and additional hydrostatic tests. (Price for quantities from 1 to 5 each – Final amount to be prorated)</p> <p><u>Refilling of cylinder</u></p> <p>cylinder CO<sub>2</sub> 100 lbs ; _____ \$ X 5 cylinders = _____ \$  cylinder CO<sub>2</sub> 75 lbs _____ \$ X 5 cylinders = _____ \$  cylinder CO<sub>2</sub> 50 lbs _____ \$ X 5 cylinders = _____ \$  cylinder CO<sub>2</sub> 15 lbs _____ \$ X 5 cylinders = _____ \$  cylinder CO<sub>2</sub> 10 lbs _____ \$ X 5 cylinders = _____ \$</p> <p><u>Hydrostatic tests</u></p> <p>Flexible hoses hydrostatic tests; _____ \$ X 5 hoses = _____ \$  High pressure on cylinder 50-75-100 lbs CO<sub>2</sub>; _____ \$ X 5 cylinders = _____ \$  High pressure cylindre 10-15 lbs CO<sub>2</sub>; _____ \$ X 5 cylinders = _____ \$</p> <p><b>Total for item 7.10.2 : \$ _____</b></p>	
<b>B) TOTAL FIRM PRICE FOR THE VESSEL'S FLEET – SOREL-TRACY =</b>		<b>\$ _____</b>

**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 **5 days** after beginning of work by sending a written notice to the Contractor.



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PRICING DATA SHEET SUMMARY		
TOTAL (A) SCHEDULED WORK	TOTAL (B) OPTIONAL WORK	TOTAL KNOWN WORK FIRM PRICE ((A) + (B))
\$ _____	\$ _____	\$ _____

# **Seasonal Vessel Repairs Sorel 2015-2016**

CCGS LEIM (L 023)  
CCGS ÎLE SAINT-OURS (I 002)  
CCGS COAST GUARD 03 (C 035)  
CCGS F.C.G. SMITH (F 005)

Specification no.: 15IN206  
Date: 2015-09-24

Prepared by: Marine Engineering  
101 Champlain Blvd.  
Québec, QC  
G1K 7Y7

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## 1. GENERAL NOTES

### 1.1. IDENTIFICATION

These general notes specify CCG requirements applicable to all the following technical specifications.

### 1.2. REFERENCES

Applicable regulations and documentation:

#### Applicable documents:

Safety and Security Procedures	Title
7. A. 1	Risk prevention program
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	Lock out/tag out
7. B. 6	Electrical work on live circuits
7.E.8	Use of halocarbons
10. A. 2	Contractor's safety and security
DFO-CCG	Sorel Base Safety Directives

#### Publications:

TP3177E	Standard for the Control of Gas Hazards in Vessels to be Repaired or Altered
TP127E	Transport Canada's Ships 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
EPS Report 1/RA/2	Environmental Code of Practice for the Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems
NFPA 10	Standard for portable fire extinguishers
DFO/5737	Fleet Safety and Security Manual

#### Acts and regulations:

S.C. 2001, c. 26	<i>Canada Shipping Act</i> and applicable regulations
R.S.C. (1985), ch. L-2	Canada Labour Code

### **1.3. OCCUPATIONAL HEALTH AND SAFETY**

The Contractor and all subcontractors must follow occupational health and safety (OHS) procedures in accordance with federal and provincial OHS regulations to ensure that the activities of the Contractor are conducted safely and without compromising the safety of any staff members.

The Contractor and the Contractor's employees, including all subcontractors, must attend an orientation session on vessel safety before beginning any work to familiarize the Contractor's employees with the dangers specific to the vessel and with its permit systems for work protocols as well as with the procedures for safety, risk prevention, hazard response and pre-work safety assessments. The Contractor will have access to an uncontrolled copy of the Fleet Safety and Security Manual.

The Contractor must comply with the Fleet Safety and Security Manual, DFO/5737, as well as with the Instructions for working on board the vessel, in addition to the relevant requirements of the *Canada Labour Code* during performance of the following types of work:

- Hot work;
- Work at heights;
- Entry into enclosed spaces;
- Degassing before entering into confined spaces and for hot work;
- Lockout and Tag out;
- Pre-work safety assessments.

For the purpose of the Lockout and identification procedure, the Contractor must provide the padlocks and locking devices for the Contractor's employees as well as those provided by the Chief Engineer for the vessel's crew.

The Contractor and its employees will not have access to the crew's washrooms or lounges. The Contractor must provide the necessary facilities for its employees and subcontractors as needed.

The Contractor shall follow the Sorel Base safety instructions.

### **1.4. ACCESS TO THE WORKPLACE**

The Contractor must ensure that TA and CCG personnel have unlimited access to the workplace at all times during the contract.

### **1.5. WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)**

The Contractor must provide the TA with the material safety data sheets (MSDSs) for any product subject to WHMIS control that it will supply.



The TA will provide the Contractor with access to the MSDSs for all controlled products on board the vessel which could be used in any work item of the specification.

#### **1.6. SMOKING IN THE WORKPLACE**

The Contractor must ensure compliance with the *Non-smokers' Health Act*. The Contractor will ensure that any employer and any person acting on behalf of an employer sees to it that everyone refrain from smoking in any workspace under the employer's control. The Contractor must ensure that there is absolutely no tobacco use on board the vessel.

#### **1.7. CLEAN AND SAFE WORKPLACE**

During the work period, the Contractor must maintain the parts of the vessel used by its personnel to access places where it must perform work in a clean and debris-free state and dispose of waste daily.

Areas that are hazardous due to work done according to the specification must be secured and clearly identified by the Contractor, including posting to warn and protect all personnel of the existing danger in accordance with the relevant requirements of the *Canada Labour Code*.

At the end of the contract, the Contractor must rid the vessel of all waste created by performance of the work and return the vessel to a state of cleanliness equal to that which existed at the beginning of the contract period.

Once all predetermined work has been achieved and a final cleaning done, the Contractor's quality guarantee (QG) representative, the TA and the IA will conduct a joint inspection tour of the vessel to visit all places where work was done by the Contractor. All deficiencies or damage noted will be recorded and compared with the digital images taken in advance. The Contractor must, at its own expense, fully correct any damage or deficiency for which it is responsible following the contract work it performed; no portion of the expenses may be charged to the CCG.

#### **1.8. FIRE PROTECTION**

The Contractor must ensure that the isolation, removal and installation of fire detection and extinguishing systems, or of any component of such systems, are done by a qualified technician. When a fire detection or extinguishing system is deactivated by the Contractor during the contract, it must then be recertified as being fully functional by a qualified technician. A signed and dated copy of the original certificate must be delivered to the TA and the IA before the end of the contract.

The Contractor must notify the TA and the IA and obtain written approval from the TA before disturbing, isolating, deactivating, interrupting or excluding any part of the fire detection and/or extinguishing systems, including smoke and heat detectors.

The Contractor must ensure protection against fire at all times, including when anyone is working on the vessel's fire detection and/or extinguishing systems. This may be accomplished as suggested below and only with written approval from the TA:

- by deactivation of only one part of the system at a time;
- by maintaining the system with spare parts while the work is in progress;
- by other acceptable means approved by the TA.

The Contractor must note that if it does not take the necessary precautions while performing the work, either on the vessel's fire extinguishing systems or near them, it could cause accidental discharge of the extinguishing agent. The Contractor must, at its own expense, refill and recertify the containers or systems so emptied during its work.

### **1.9. RETOUCHING/PAINTING**

Unless otherwise indicated, any new steel and/or any affected steel must receive two coats of marine primer, compatible with the vessel's paint coating scheme.

The Contractor must prepare any new or affected steel in accordance with the paint manufacturer's standards before painting.

### **1.10. CCG EMPLOYEES AND OTHERS ON THE VESSEL**

CCG or DFO employees and other workers such as manufacturer's agents and/or TCMS or classification society experts may perform work other than the work included in this statement of work on board the vessel throughout this contract. The TA will do everything possible to ensure that such work and/or inspections/examinations taking place do not interfere with the Contractor's work. The Contractor is not responsible for arranging the related inspections or to pay for them, unless otherwise indicated.

### **1.11. REGULATORY INSPECTIONS AND/OR CLASSIFICATION REVIEW**

The Contractor must make the calls and set the schedule for any regulatory inspections and/or classification visit by the responsible authority: TCMS, HC, Environment Canada or other persons required by the specifications. The CCG is responsible for paying Transport Canada and Bureau Veritas inspection fees for the inspector's services. The Contractor is responsible for all costs for assistance associated with inspections (e.g. opening a manhole, conducting a test, etc.).

Any documentation generated by the inspections/visits referred to above and which demonstrates that they have taken place (i.e., signed and dated originals of certificates) must be provided to the TA with copies to the IA.

The Contractor must not substitute regulatory inspections or classification visits with inspections done by the TA or IA.

The Contractor must give the TA and the IA prior notice (at least 24 hours) of regulatory inspections/classification visits so they can attend the inspection/visit.

### **1.12. TEST RESULTS AND DATA COLLECTION**

The Contractor must prepare a plan of tests and trials which must include, at a minimum, all the tests and trials set out in the specifications. This plan must be offered to the TA and the IA for their approval one week before the beginning of the originally planned tests and trials.

All tests, measurements, calibrations and readings must be recorded, signed by the person taking the measurements, dated and provided in electronic and printed report format – to the TA, IA and TC.

Dimensions recorded in the register must have an accuracy of three (3) decimal places (unless otherwise specified) in the measurement system in use on board the vessel.

The Contractor must provide the TA and the IA with recent calibration certificates in force for all instrumentation used in the plan of tests and trials demonstrating that the measurement instruments concerned have been calibrated in accordance with the manufacturer's instructions.

Printed reports will be bound in standard three-ring binders, typed on letter sized stationery and indexed in accordance with the specification's numbering system. Electronic copies will be saved in "Adobe PDF" format without password protection and provided on CD-ROM. The Contractor will supply three paper copies and one electronic copy of each report.

All documentation from the contract period must be incorporated in the collection of data to be remitted to the TA and IA at the end of the contract period.

#### **1.13. TOOLS AND MATERIALS PROVIDED BY THE CONTRACTOR**

Unless otherwise indicated, the Contractor must supply all the material, equipment and parts necessary to perform the work in the specifications.

The Contractor must ensure that all materials are new and have never been used.

The Contractor must ensure that alternative materials such as glands, packaging, insulation, small hardware, oil, lubricants, cleaning solvents, preservatives, paints, coatings, etc., comply with the drawings, guides and instructions of the equipment manufacturer.

Where no particular article is specified or where a substitute must be used, the TA must provide written approval for the substituted article. The Contractor must provide information on the materials used — certificate of classification and quality of various materials — to the TA before use.

The Contractor must provide all the equipment, machinery, material and tools such as cranes, scaffolding, platforms and rigging necessary to carry out the work described in this specification.

The Contractor must provide a waste disposal service for any oil, oily waste, any other hazardous material and any garbage subject to control resulting from the work described by this specification. It will also provide the garbage disposal certificates for any waste mentioned above

and these certificates must show that the disposal has been done in accordance with the federal, provincial and municipal directives in force.

#### **1.14. TOOLS AND MATERIALS PROVIDED BY THE GOVERNMENT**

All tools will be provided by the Contractor unless otherwise indicated in the technical specification.

Where the tools are provided by the TA they will be returned by the Contractor in the same condition as when they were borrowed. Borrowed tools must be inventoried and the Contractor must sign an acknowledgement of receipt and return them to the TA.

Any Government Supplied Material (GSM) must be received by the Contractor and stored in a secure warehouse or stores having a controlled environment appropriate to the equipment according to the manufacturer's instructions.

#### **1.15. CONTRACTOR FAMILIARIZATION**

All personnel working on the Sorel Canadian Coast Guard base must take a familiarization session and sign form 10.A.7. There will be two familiarization sessions. The first session will be held on the day of the meeting when construction begins, and the second will take place two weeks later. Familiarization sessions will be led by an employee of the Canadian Coast Guard. Each session will last 2 hours.

#### **1.16. RESTRICTED ACCESS AREAS**

Other than for security or for the purpose of work required by the specification, the Contractor does not have the right to enter the following places: any cabins, offices, workshops, mechanic's office, wheelhouse, control room, any washrooms, the galley, mess, lounges or any other sector where access is restricted by notice.

The Contractor must notify the TA at least 24 hours in advance before undertaking work in inhabited spaces or offices. Such notice will give the CG the time needed to evacuate its personnel and ensure safety in these rooms.

#### **1.17. INSPECTIONS BY THE CONTRACTOR AND PROTECTION OF THE WORKPLACE AND EQUIPMENT**

The Contractor must coordinate an inspection of the condition and location of items to be removed with the TA and the IA before performing the specified work or accessing a location to work in it.

The Contractor must repair, at its own expense, any damage resulting from its actions during performance of its work and which may be attributed to its performance. Any material used in a replacement or repair must comply with the criteria for the material provided by the Contractor as indicated above in the Tools and Materials Provided by the Contractor section.

The Contractor must protect all equipment and all neighbouring areas against damage. Work areas must be protected against flooding and water leaks, debris from sandblasting, welding, etc. Temporary tarpaulins must be placed over work areas.

#### **1.18. RECORDS OF WORK IN PROGRESS**

The TA and IA may record the work in progress by various means including, but not limited to, photographs and video, whether digital or film.

#### **1.19. LIST OF CONFINED SPACES**

The Contractor may ask for a list of the vessel's confined spaces during the meeting preceding the refit.

#### **1.20. LEAD-BASED PAINTS AND PAINT COATINGS**

The Contractor will not use lead-based paints.

CCG vessels were coated in lead-based paints in the past and there may therefore be certain work done by the Contractor such as grinding, welding or hot work that could extract the lead from this paint. The Contractor must ensure that places in affected work areas are examined for any lead content and ensure that the work is done in accordance with the applicable federal and provincial regulations.

The Contractor must demonstrate the product's approval by HC for hull paints controlled by HC and the Pest Management Regulatory Agency.

#### **1.21. MATERIALS CONTAINING ASBESTOS**

The Contractor will not use any material that contains asbestos.

The handling of any material containing asbestos will be done by persons trained and qualified in asbestos disposal in accordance with the regulations in force of the federal, provincial and municipal governments as well as in accordance with the FSSM. The Contractor must provide the TA and the IA with certificates showing that removal from the vessel of any material containing asbestos has been done in accordance with the regulations in force from the federal, provincial and municipal governments.

#### **1.22. REMOVED MATERIALS AND EQUIPMENT**

All material removed under this specification remains the property of the CCG, unless instructions to the contrary are provided in the specifications section.

#### **1.23. WELDING CERTIFICATION**

The contractor and the welders involved in the work must be certified by the Canadian Welding Bureau. The contractor must be certified for the welding of steel and aluminum in accordance with CSA Standard W47.1, division 2 and with CSA Standard W47.2, division 2. Copies of certifications (including those of the welders) will be submitted to the TA and the IA.

#### **1.24. ELECTRICAL INSTALLATIONS**

All electrical installations and repairs must be done in accordance with the latest revisions of TP127E - Electrical Standards of Transport Canada Marine Safety and of standard 45-Recommended Practice for electrical installation on ships – of the IEEE. Standard TP127 takes precedence over the IEEE standard.

#### **1.25. REFRIGERATION AND AIR CONDITIONING SYSTEMS**

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*.

#### **1.26. ELECTRICAL POWER SUPPLY**

The CCG shall allow the Contractor to use a limited number of 115 VAC, 1 phase, 15 amp outlets for the duration of the contract, depending on the network's capacity.

#### **1.27. CHEMICAL TOILET**

The Contractor shall provide chemical toilets for its employees. The Contractor's staff will not be authorized to use the washrooms inside buildings at the Canadian Coast Guard base. Note that the washrooms on board vessels will be out of service.

#### **1.28. TRADESMEN'S COMPETENCE**

The Contractor must use qualified, certified (if applicable) and competent tradespeople and supervise them to ensure a high and consistent quality of performance.

The welders, mechanics and electricians with less than 5 years of experience will be considered an apprentice. Those shall be locally supervised by a competent tradesman who possess more than 5 year of experience.

The welders, mechanics and electricians shall have completed a recognize training in their respective field of work.

The head of inspection may ask to consult and record details of the certification or competencies of the Contractor's tradespeople. This request must not be exercised unduly, but is only intended to ensure that qualified tradespeople are performing the necessary work.

#### **1.29. INSPECTION OF FIRE FIGHTING SYSTEMS**

The Contractor shall use qualified, certified (if applicable) and competent tradespeople and supervise them to ensure a high and consistent quality of performance.

The head of inspection may ask to consult and record details of the certification or competencies of the Contractor's tradespeople. This request must not be exercised unduly, but is only intended to ensure that qualified tradespeople are performing the necessary work.

#### **1.30. CANADA SHIPPING ACT**

All changes and work carried out must be made according to the regulations of the 2001 Canadian Shipping Act and the associated regulations.

### **1.31. RULES FOR THE CLASSIFICATION –BUREAU VERITAS**

All changes and work carried out must be made according to the rules of Bureau Veritas. This requirement is only applicable to the NGCC Leim.

## **2. SERVICES**

Not applicable

## **3. LIST OF ACRONYMS**

BV	Bureau Veritas
CA	Contracting authority (PWGSC)
CCG	Canadian Coast Guard
CLC	Canada Labour Code
CPM	Contractor-provided material
CSA	Canadian Standards Association
CWB	Canadian Welding Bureau
CWB	Canadian Welding Bureau
DFO	Department of Fisheries and Oceans
FSR	Field Service Representative
FSSM	Fleet Safety and Security Manual
GPM	Government-provided material
HC	Health Canada
IEEE	Institute of Electrical and Electronic Engineers
MSDS	Data sheet
OHS	Occupational Health and Safety
OL	Overall length
PWGSC	Public Works and Government Services Canada
SSMS	Safety and Security Management System
TA	Technical Authority – Owner’s Representative (CCG)
TBS	Treasury Board of Canada Secretariat
TC	Transport Canada Marine Safety
TSR	Technical Services Representative
Workplace Hazardous Materials Information System (WHMIS)	Workplace Hazardous Materials Information System

<b>4. CCGS LEIM (L 023)</b>		
Maintenance Manager:	Email:	Office: Cell:

## **4.10. SAFETY AND SECURITY EQUIPMENT**

### **4.10.1 PORTABLE FIRE EXTINGUISHER**

#### **4.10.1.1 – SCOPE**

The Contractor must inspect all extinguishers and renew the certification of all extinguisher for which the certification date is expired.

#### **4.10.1.2 – REFERENCES**

- ISV22 – 30000RMM13 – Drawing of general layout
- NGCC Leim - extincteurs portatifs

#### **4.10.1.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- An annual inspection of portable fire extinguishers must be performed. Fire extinguisher inspection and maintenance shall be entrusted to a qualified representative under the responsibility of the Contractor. The certificate of inspection shall be supplied by a supplier authorized by Bureau Veritas.
- The Contractor must remove the fire extinguishers in a sequence such that the number of fire extinguishers off the vessel is never more than a third of those that are on board. The Chief Engineer will determine the order in which the fire extinguishers must leave the vessel.
- Once the maintenance has been completed, the Contractor must return all the fire extinguishers to the vessel and put them back in place according to the Chief Engineer's instructions.
- Note: No dry chemical extinguisher is eligible for six-year maintenance.
- Note: No fire extinguisher is eligible for a hydrostatic test.

#### **4.10.1.4 – PROOF OF PERFORMANCE**

##### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer and the Bureau Veritas inspector.

##### **Tests**

- Fire extinguisher tests shall be performed in compliance with the regulations of the Bureau Veritas classification society.

##### **Certification**



- The Contractor must provide the Chief Engineer with two (2) paper copies of maintenance certificates along with the original. The Contractor must also send an electronic copy of certificates to the Vessel Maintenance Manager.

#### **4.10.1.5 – DELIVERABLES**

##### **Drawings/reports**

- The Contractor must provide the Chief Engineer with two (2) paper copies of reports and checklists that explain in detail the work and necessary modifications. The Contractor must also send an electronic copy of all reports to the Vessel Maintenance Manager.

### **4.10.2 FIRE DETECTION SYSTEM**

#### **4.10.2.1 – SCOPE**

The purpose of this specification is to ensure that the Contractor provide licensed workforce to perform the annual inspection and certification of the fire detection system.

#### **4.10.2.2 – REFERENCES**

- 915.5 - FIRE DETECTION SYSTEM - Drawing\_Binder\_25M\_(H008)\_ 915.5 ISV\_IFDS\_2011\_08\_15\_rev03\_FT
- ISV22-36000RMM7 – Fire safety plan
- 915.5 - FIRE DETECTION SYSTEM - ISV\_IFDS\_System Binder\_25M\_22M\_(ISV008,ISV009,ISV010)\_2011\_08\_12\_FT

#### **4.10.2.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- The vessel is equipped with a Techsol integrated fire detection system with a Notifier NFS2-640 fire alarm. The Notifier NFS-640 panel is connected to the integrated fire alarm system, which is part of the vessel's surveillance and alarm system.
- Before work begins, the Contractor shall arrange for a visit from a Bureau Veritas classification society inspector.
- The Contractor must provide licensed workforce to conduct the annual inspection and certification of the fire detection system. The certificate of inspection shall be supplied by a supplier authorized by Bureau Veritas.
- The fire detection system control panel is found on the port side of the wheelhouse.

#### **4.10.2.4 – PROOF OF PERFORMANCE**

##### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer and the Bureau Veritas inspector.

##### **Certification**

- The Contractor must provide the Chief Engineer with two (2) paper copies of maintenance certificates along with the original. The Contractor shall also send an electronic copy of certificates to the person responsible for the vessel's maintenance.

#### **4.10.1.5 – DELIVERABLES**

##### **Drawings/reports**

- The Contractor must submit to the Chief Engineer one (1) hard copy of the typed report, detailing the inspections, modifications and repairs made, prior to acceptance of this item. The Contractor shall also send an electronic copy of the report to the person responsible for the vessel's maintenance.

### **4.10.3 ANNUAL INSPECTION OF FIXED FIRE SUPPRESSION SYSTEM**

#### **4.10.3.1 – SCOPE**

- The purpose of this specification is to perform maintenance on and certify the fixed fire suppression system on the CCGS Leim.
- The Contractor must communicate with the Chief Engineer before undertaking the work for this item. This work must be performed in conjunction with the portable fire extinguisher maintenance without reducing the fire suppression capacity aboard the vessel.
- The fixed fire suppression system is a 3M Novec 1230 system.

#### **4.10.3.2 – REFERENCES**

728 - FIRE EXTINGUISHING SYSTEMS, FIXED – SPECIFICATIONS

#### **4.10.3.3 – TECHNICAL DESCRIPTION**

##### **The Contractor must particularly perform the following work:**

- The Contractor must provide authorized workforce to test and inspect the vessel's Novec 1230 system as part of the annual inspection and certification of this system. The certificate of inspection shall be supplied by a supplier authorized by Bureau Veritas.
- The Chief Engineer must attend all tests.
- Aside from the following tests, the Contractor shall perform all tests required by the Bureau Veritas inspector on site. In the estimate, the Contractor must provide the cost of testing the alarms (indicator lights and bells) on all devices, testing the nitrogen-releasing cylinders, testing ventilation closure devices, and testing slack loops and cables.
- The Contractor must use air pressure to clean the pipes and pneumatic actuators and ensure that they work properly. The pipes and nozzles must be free of obstruction.
- The Contractor must ensure that the alarm displays and sirens work properly. The Contractor must weigh each cylinder and record the results. At the end of the refit, the Contractor must provide the Chief Engineer with copies of all certificates.
- When the tests and inspections are completed, the Contractor must reassemble and reactivate the systems.
- The Contractor must be licensed to certify this system renewal in accordance with the most recent requirements in the BV classification society's regulations.
- The Novec fire extinguishers are found in the cargo hold.

#### **4.10.3.4 – PROOF OF PERFORMANCE**

##### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer, the person responsible for the vessel's maintenance and the BV inspector.

**Tests**

- The Chief Engineer must be present for the system inspection and test.

**Certification**

- The Contractor shall provide the Chief Engineer with two (2) paper copies of maintenance certificates along with the original. The Contractor must also send an electronic copy of certificates to the Vessel Maintenance Manager.

#### **4.10.3.5 – DELIVERABLES**

**Drawings/reports**

- The Contractor must submit to the Chief Engineer a hard copy of the typed report, detailing the inspections, modifications and repairs made, prior to acceptance of this item. The Contractor must also send an electronic copy of the report to the Vessel Maintenance Manager.

#### **4.10.4 ANNUAL INSPECTION OF LIFEBOAT DAVIT**

##### **4.10.4.1 – SCOPE**

The purpose of this specification the inspection and certification of the lifeboat's davit and its lifting device.

##### **4.10.4.2 – TECHNICAL DESCRIPTION**

The davit is a Global Davit GmbH.

Type: Rhs.13/3.5

**The Contractor must particularly perform the following work:**

The Contractor must provide licensed workforce to conduct the annual inspection and certification of the davit and its integrated lifting device.

The davit is located on the port side of the wheelhouse.

##### **4.10.4.3 – PROOF OF PERFORMANCE**

**Inspection**

All work must be completed to the satisfaction of the Chief Engineer and the Bureau Veritas inspector.

**Certification**

The Contractor must provide the Chief Engineer with two (2) paper copies of maintenance certificates along with the original. The Contractor must also send an electronic copy of certificates to the Vessel Maintenance Manager.

##### **4.10.4.4 – DELIVERABLES**

**Drawings/reports**

The Contractor must submit to the Chief Engineer one (1) hard copy of the typed report, detailing the inspections, modifications and repairs made, prior to acceptance of this item.

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The Contractor must also send an electronic copy of the report to the Vessel Maintenance Manager.

#### **4.11. HULL AND STRUCTURE**

N/A

#### **4.12. PROPULSION AND MANOEUVRING SYSTEMS**

N/A

#### **4.13. VESSEL'S GENERATION OF ELECTRICAL POWER**

N/A

#### **4.14. POWER DISTRIBUTION**

##### **4.14.1 GROUNDING (LEAK) PROBLEM**

###### **4.14.1.1 – SCOPE**

- Repairs of intermittent electrical problems.

###### **4.14.1.2 – REFERENCE**

- *ISV22-61850RMM2 – 120VAC & 24VDC distribution plan*
- *ISV22-60000MM21 – Electrical one line diagram*

###### **4.14.1.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- Investigate a grounding problem on the DC1, DC2 and DC4 panels and complete any necessary repair work.
- Investigate and repair an electrical grounding problem on the bow thruster. The fuse repeatedly burns out on the 24 VDC circuit. Also investigate the following error on the control: "VDF inverted fault."
- The work must be done by a qualified electrician in compliance with the TP127 requirements.

###### **4.14.1.4 – PROOF OF PERFORMANCE**

###### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer.

###### **4.14.1.5 – DELIVERABLES**

###### **Drawings/reports**

- The Contractor must provide the Chief Engineer with a paper copy of the report, detailing the inspections, modifications and repairs made, prior to acceptance of

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this item. The Contractor must also send an electronic copy of the report to the Vessel Maintenance Manager.

#### **4.14.2 TIGHTENING OF ALL DISTRIBUTION PANEL WIRES**

##### **4.14.2.1 – SCOPE**

Tighten all terminal board wires for all the vessel's electrical distribution panels.

##### **4.14.2.2 – REFERENCE**

- *ISV22-61850RMM2 – 120VAC & 24VDC distribution plan*
- *ISV22-60000MM21 – Electrical one line diagram*

##### **4.14.2.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- Perform tightening for all terminal boards and/or connectors of all the vessel's electrical distribution panels.
- The torque must comply with manufacturer recommendations.
- Provide 32 hours to complete the work.

##### **4.14.2.4 – PROOF OF PERFORMANCE**

###### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer.

###### **Reports**

- The Contractor shall provide the Chief Engineer with two (2) paper copies and one electronic copy of a report containing the tightening torques used for each type of terminal and/or connector, as well as the list of terminal numbers and/or connectors that required tightening.

#### **4.15. AUXILIARY SYSTEMS**

##### **4.15.1 – REVIEW OF FUEL TRANSFER PUMPS**

###### **4.15.1.1 – SCOPE**

- Correct the low-flow issue for the two (2) fuel transfer pumps.

###### **4.15.1.2 – REFERENCES**

- 710.3 - Fuel oil transfer pumps- user manual
- 710.3 - Fuel oil transfer pumps specification

###### **4.15.1.3 – TECHNICAL DESCRIPTION**

Pump manufacturer: Viking, model: HJ4193

**The Contractor must particularly perform the following work:**

- Disassemble and inspect the two fuel transfer pumps to correct the low-flow issue. The work must be done by a repairer authorized by Viking.

#### **4.15.1.4 – PROOF OF PERFORMANCE**

- All work shall be completed to the satisfaction of the Chief Engineer.

#### **4.15.1.5 – DELIVERABLES**

- The Contractor shall submit a written report in hard copy and PDF format.
- The following information is to be included:
  - Date of work and date of report
  - Technician name
  - Diagnostic of problems, if necessary
  - Description of work performed
  - Measurements of components and values beyond minimum tolerances recommended by the manufacturer.
  - A list of materials and all parts replaced or installed.
- Provide photos of internal components.

### **4.16. DOMESTIC SYSTEMS**

#### **4.16.1 ANNUAL INSPECTION OF HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION SYSTEMS**

##### **4.16.1.1 – SCOPE**

Perform annual inspection of refrigeration systems.

##### **4.16.1.2 – REFERENCE**

LEIM-81500RMM16 - HVAC System Diagram

LEIM-81510RMM7 - HVAC Ducting Diagram

*2015-03-06 Inventory of Leim halocarbons*

##### **4.16.1.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- Perform a full inspection of all heating, ventilation, air conditioning and refrigeration system components. All breaks and failures must be addressed as additional work on form 1379.
- Conduct a test to detect refrigerant leaks on all air conditioning and refrigeration system components.
- Check the operating parameters.
- At the Chief Engineer's request, the refrigeration technician must present a valid refrigeration mechanic's certificate.
- The Contractor must affix a label with its contact information to each piece of equipment, stating that the equipment has been inspected and tested.

- Conduct a thorough cleaning of the ship's ventilation system using mechanical suction/pulsing/brushing (octopus) methods and a vacuum equipped with a HEPA filter.
- The ventilation system includes the following components: the central ventilation ducts for the dryer and the bathroom; heat exchangers; diffusers; and external air intake.
- Degrease the galley hood, including its fan and exhaust duct.
- The Contractor shall take the necessary measures to adequately protect furniture and equipment during the work.

#### **4.16.1.4 – PROOF OF PERFORMANCE**

##### **Inspection**

All work must be completed to the satisfaction of the Chief Engineer.

##### **Certification**

The Contractor must provide the Chief Engineer with two (2) paper copies of inspection certificates along with the original. The Contractor must also send an electronic copy of certificates to the Vessel Maintenance Manager.

#### **4.16.1.5 – DELIVERABLES**

##### **Drawings/reports**

The Contractor must provide the Chief Engineer with a paper copy of the report, detailing the inspections, modifications and repairs made, prior to acceptance of this item. The Contractor must also send an electronic copy of the report to the Vessel Maintenance Manager.

### **4.17. DECK EQUIPMENT / VESSEL SUPPORT SYSTEMS**

N/A

### **4.18. COMMUNICATION AND NAVIGATION SYSTEMS**

N/A

### **4.19. INTEGRATED CONTROL SYSTEMS**

N/A

## **5. CCGS ÎLE SAINT-OURS (I 002)**

Maintenance Manager:	Email:	Office: : Cell: :
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### **5.10. SAFETY AND SECURITY EQUIPMENT**

#### **5.10.1 CERTIFICATION OF FIRE EXTINGUISHERS**

##### **5.10.1.1 – SCOPE**

- The Contractor must inspect all extinguishers and renew the certification of all extinguisher for which the certification date is expired.

##### **5.10.1.2 - REFERENCES**

- NGCC Ile Saint Ours –Extincteurs portatifs

##### **5.10.1.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- An annual inspection of portable fire extinguishers must be performed. Fire extinguisher inspection and maintenance shall be entrusted to a qualified representative under the responsibility of the Contractor.
- The Contractor must remove the fire extinguishers in a sequence such that the number of fire extinguishers off the vessel is never more than a third of those that are on board.
- Once the maintenance has been completed, the Contractor must return all the fire extinguishers to the vessel and put them back in place according to the Chief Engineer's instructions.

##### **5.0.1.4 – DELIVERABLES**

##### **Drawings/reports**

- The Contractor must provide the Chief Engineer with two (2) paper copies of reports and checklists that explain in detail the work and necessary modifications. The Contractor must also send an electronic copy of all reports to the Vessel Maintenance Manager.

#### **5.10.2 ANNUAL INSPECTION OF FIXED FIRE SUPPRESSION SYSTEM**

##### **5.10.2.1 – SCOPE**

Perform maintenance and certification of the fixed fire suppression system.

##### **5.10.2.3 – TECHNICAL DESCRIPTION**

The fixed fire suppression system includes two 75 lb cylinders of CO2 for the engine room and one 100 lb cylinder of CO2 for the forward hold.



**The Contractor must particularly perform the following work:**

The Contractor must communicate with the Chief Engineer before undertaking the work for this item. This work must be performed in conjunction with the portable fire extinguisher maintenance without reducing the fire suppression capacity aboard the vessel.

- TC shall perform maintenance and certification of the fixed fire suppression system.
- Verify proper operation of all remote CO2 release cables.
- Verify proper operation of all pressure switches.
- Verify proper operation of all heat and smoke detectors.
- Verify proper operation of all manual fire stations.
- Verify proper operation of all fire alarm panels.
- All the distribution lines and flexible hoses shall be visually checked and cleared with compressed air.

**5.10.2.4 – PROOF OF PERFORMANCE**

**Inspection**

- All work must be completed to the satisfaction of the Chief Engineer and the TC inspector.

**Tests**

- The Chief Engineer must be present for the system inspection and test.

**Certification**

- The Contractor shall provide the Chief Engineer with two (2) paper copies of the original inspection certificates. The Contractor must also send an electronic copy of certificates to the Vessel Maintenance Manager.

**5.10.2.5 – DELIVERABLES**

**Drawings/reports**

- The Contractor must provide the Chief Engineer with a paper copy of the report, detailing the inspections, modifications and repairs made, prior to acceptance of this item. The Contractor must also send an electronic copy of the report to the Vessel Maintenance Manager.

**5.11. HULL AND RELATED STRUCTURE**

N/A

**5.12. PROPULSION AND MANOEUVRING SYSTEMS**

**5.12.1 - ANNUAL MAINTENANCE OF MAIN ENGINES**

**5.12.1.1 – SCOPE**

- Perform the annual inspection and maintenance of the two (2) main diesel engines and their reducers.

#### **5.12.1.3 – TECHNICAL DESCRIPTION**

Engine type: Detroit Diesel series 92  
Port: Model 8082-3000 - Serial number: 8VF 100926  
Starboard: Model 8082-7000 - Serial number: 8VF 100917

Transmission: Pay and Brinck A/S, PB130  
Port: Model: 1101  
Starboard: Model: 1102

Engine hours: Port: 9258 hrs, Starboard: 9295 hrs.

#### **The Contractor must particularly perform the following work:**

- Provide the services of an engineer for the annual maintenance of the Detroit Diesel series 92 engines and their Pay and Brinck gearboxes.
- The technician must be an authorized by the engine's manufacturer.
- The engineer shall perform all upgrades and repairs recommended by the manufacturer.
- The technician shall perform the work recommended by the manufacturer based on the engine hours.
- In the spring, the technician shall conduct an engine operation test for 1 hour. The engine shall be tested under load.

#### **5.12.1.4 – PROOF OF PERFORMANCE**

- All work shall be completed to the satisfaction of the Chief Engineer.
- 

#### **5.12.1.5 – DELIVERABLES**

- The technician shall submit a written report in hard copy and electronic form.
- The following information is to be included:
  - Date of work and date of report
  - Technician name
  - Diagnostic of problems, if necessary
  - Description of work performed
  - A list of materials and all parts replaced or installed.

### **5.13. VESSEL'S GENERATION OF ELECTRICAL POWER**

#### **5.13.1 - ANNUAL MAINTENANCE OF GENERATORS**

##### **5.13.1.1 – SCOPE**

Perform the annual inspection and maintenance of the main diesel engines and their reducers.

##### **5.13.1.3 – TECHNICAL DESCRIPTION**

Engine type: Perkins 4.236, 4 cylinders

Port: Serial number: LD20663U97544L  
Starboard: Serial number: LD20663NT743303

Engine hours: Port: 3448 hrs, Starboard: 2081 hrs

**The Contractor must particularly perform the following work:**

- Provide the services of an engineer for the annual maintenance of Perkins diesel engines.
- The technician must be authorized by the engine's manufacturer.
- The engineer shall perform all upgrades and repairs recommended by the manufacturer.
- The technician shall perform the work recommended by the manufacturer based on the engine hours.
- In the spring, the technician shall conduct an engine operation test for 1 hour. The engine shall be tested under load.

**5.13.1.4 – PROOF OF PERFORMANCE**

- All work shall be completed to the satisfaction of the Chief Engineer.

**5.13.1.5 – DELIVERABLES**

- The technician shall submit a written report in hard copy and PDF.
- The following information is to be included:
  - Date of work and date of report
  - Technician name
  - Diagnostic of problems, if necessary
  - Description of work performed
  - A list of materials and all parts replaced or installed.

**5.14. POWER DISTRIBUTION**

**5.14.1 – ELECTRICAL INSULATION TEST**

**5.14.1.1 – SCOPE**

- Conduct insulation tests on the vessel's electrical circuits.

**5.14.1.2 – REFERENCES**

- List of electrical circuits on the St-Ours

**5.14.1.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- Conduct insulation tests on all the vessel's AC electrical circuits and record the results in the "List of electrical circuits on the St-Ours" document.
- All tests shall be performed between phase and ground. For systems containing more than one phase, each phase shall be tested independently.
- Always take the notes on the distribution lists into consideration to prevent damage to equipment.

- The voltages used for the insulation tests are recorded in the "List of electrical circuits on the St-Ours" document.
- For distribution circuits:
  - Disconnect all devices connected to the circuit to be tested (anything plugged into an outlet).
  - All breakers on the circuit should be closed (ON) to conduct the test.
  - Open (OFF) the breaker for the circuit to be tested.
- For the generators:
  - Open (OFF) the breaker for the generator.
  - Disconnect the voltage regulator and the voltage sensing unit.
- For the electric motors:
  - Open (OFF) the motor breaker.
  - Test all the phases independently downstream of the breaker (between the breaker and the motor).
  - Find and turn on the starter for the motor to be tested, and perform the test on all phases downstream of the breaker (between the starter and the motor).
- All circuits tested whose results are less than 5 Megaohms shall be investigated to identify and correct the cause of the insulation loss.

#### **5.14.1.4 – PROOF OF PERFORMANCE**

##### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer and the TC inspector.

#### **5.14.1.5 - DELIVERABLES**

##### **Report**

- The Contractor shall provide the Chief Engineer with two (2) paper copies of the original inspection report. The Contractor must also send an electronic copy of certificates to the Vessel Maintenance Manager.
- The report must be made with the document "List of electrical circuits on St-Ours" digitally filled out, signed and dated by the person who performed the work.
- The report shall indicate the make, model and serial number of the electrical insulation measuring device.

### **5.15. AUXILIARY SYSTEMS**

#### **5.15.1 - ANNUAL MAINTENANCE OF THE HYDRAULIC UNIT ENGINE**

##### **5.15.1.1 – SCOPE**

- Perform the annual inspection and maintenance of the hydraulic unit's diesel engine.

#### **5.15.1.2 – REFERENCES**

- Engine type: Detroit Diesel series 53, model 5042-6000  
Engine hours: 652 hrs

#### **5.15.1.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- Provide the services of an engineer for annual maintenance of the Detroit Diesel series 53 hydraulic unit engine.
- The technician must be an authorized by the engine's manufacturer.
- The engineer shall perform all upgrades and repairs recommended by the manufacturer.
- The technician shall perform the work recommended by the manufacturer based on the engine hours.
- In the spring, the technician shall conduct an engine operation test for 1 hour. The engine shall be tested under load.

#### **5.15.1.4 – PROOF OF PERFORMANCE**

- All work shall be completed to the satisfaction of the Chief Engineer.

#### **5.15.1.5 – DELIVERABLES**

- The technician shall submit a written report in hard copy and electronic form.
- The following information is to be included:
  - Date of work and date of report
  - Technician name
  - Diagnostic of problems, if necessary
  - Description of work performed
  - A list of materials and all parts replaced or installed.

### **5.16. DOMESTIC SYSTEMS**

#### **5.16.1 CLEANING AND INSPECTION OF THE CENTRAL VENTILATION SYSTEM**

##### **5.16.1.1 – SCOPE**

- Conduct a thorough cleaning of ventilation system.

##### **5.16.1.2 – REFERENCES**

- Ile Saint Ours Ventilation 42-83-803

##### **5.16.1.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- Conduct a thorough cleaning of the ship's ventilation system using mechanical suction/pulsing/brushing (octopus) methods and a vacuum equipped with a HEPA filter.

- The ventilation system includes the following components: the central ventilation ducts for the dryer and the bathroom; heat exchangers; diffusers; and external air intake.
- Degrease the galley hood, including its fan and exhaust duct.
- The Contractor shall take the necessary measures to adequately protect furniture and equipment during the work.

#### **5.16.1.4 – PROOF OF PERFORMANCE**

##### **Inspection and certification**

- The work shall be done to the satisfaction of the Canadian Coast Guard representative.
- 

#### **5.16.1.5 – DELIVERABLES**

##### **Report**

- The Contractor shall provide the Chief Engineer with two (2) paper copies and one electronic copy of a report indicating the general condition of the ventilation system before and after the work. This report must include photos of the various components of the ventilation system before and after cleaning.

### **5.17. DECK EQUIPMENT / VESSEL SUPPORT SYSTEMS**

N/A

### **5.18. COMMUNICATION AND NAVIGATION SYSTEMS**

N/A

### **5.19. INTEGRATED CONTROL SYSTEMS**

N/A

<b>6. CCGS COAST GUARD 03 (C 035)</b>		
Maintenance Manager:	Email:	Office: : Cell: :

## **6.10 SAFETY AND SECURITY EQUIPMENT**

### **6.10.1 PORTABLE FIRE EXTINGUISHERS**

#### **6.10.1.1 – SCOPE**

The Contractor must inspect all extinguishers and renew the certification of all extinguisher for which the certification date is expired.

#### **6.10.1.2 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- An annual inspection of portable fire extinguishers must be performed. Fire extinguisher inspection and maintenance must be entrusted to a qualified representative.
- Once the maintenance has been completed, the Contractor must return all the fire extinguishers to the vessel and put them back in place according to the Chief Engineer's instructions.

#### **6.10.1.3 – PROOF OF PERFORMANCE**

##### **Inspection**

- All work must be completed to the satisfaction of the Commanding Officer, the Chief Engineer or Vessel Maintenance Manager.

##### **Tests**

- Fire extinguisher tests shall be performed in compliance with the regulations of Transport Canada.

##### **Certification**

- The Contractor must provide the Chief Engineer with two (2) paper copies of maintenance certificates along with the original. The Contractor must also send an electronic copy of all reports and certificates to the Vessel Maintenance Manager.

#### **6.10.1.4 – DELIVERABLES**

##### **Drawings/reports**

- The Contractor must provide the Chief Engineer with two (2) paper copies of reports and checklists that explain in detail the work and necessary modifications. The Contractor must also send an electronic copy of all reports to the Vessel Maintenance Manager.

## **6.10.2 FIRE DETECTION SYSTEM**

### **6.10.2.1 – SCOPE**

The purpose of this specification is to ensure that the Contractor provide licensed workforce to perform the annual inspection and certification of the fire detection system.

### **6.10.2.2 – REFERENCE**

- GC-03 –Extincteurs portatifs

### **6.10.2.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- The vessel is equipped with a Fire-lite MS-9050UD fire panel.
- The Contractor shall arrange for a visit from a TC inspector before the work begins.
- The Contractor must retain the services of a licensed company to conduct the annual inspection and certification of the fire detection system.
- The fire detection system control panel is found on the port side of the wheelhouse.
- 

### **6.10.2.4 – PROOF OF PERFORMANCE**

#### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer and the Vessel Maintenance Manager.

#### **Certification**

- The Contractor shall provide the Chief Engineer with two (2) paper copies of maintenance certificates along with the original. The Contractor must also send an electronic copy of all reports and certificates to the Vessel Maintenance Manager.

### **6.10.2.5 – DELIVERABLES**

#### **Drawings/reports**

- The Contractor must submit to the Chief Engineer a hard copy of the typed report, detailing the inspections, modifications and repairs made, prior to acceptance of this item. The Contractor must also send an electronic copy of all reports and certificates to the Vessel Maintenance Manager.

## **6.10.3 ANNUAL INSPECTION OF FIXED FIRE SUPPRESSION SYSTEM**

### **6.10.3.1 – SCOPE**

The purpose of this specification is to perform maintenance on and certify the fixed fire suppression system on the CCGS GC-03.

The Contractor must communicate with the Chief Engineer before undertaking the work for this item. This work must be performed in conjunction with the portable fire extinguisher maintenance without reducing the fire suppression capacity aboard the vessel.

The fixed suppression system is a Kidde 2 x 75 lbs. system.



#### **6.10.3.2 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- The Contractor shall retain the services of an authorized representative who will test and inspect the vessel's CO2 system as part of the annual inspection and certification of this system. The Chief Engineer must attend all tests.
- Aside from the following tests, the Contractor shall perform all tests required by the TC inspector on site. In the estimate, the Contractor must provide the cost of testing the alarms (indicator lights and sirens) on all devices, testing ventilation closure devices, and testing slack loops and cables.
- The Contractor must use air pressure to clean the pipes and pneumatic actuators and ensure that they work properly. The pipes and nozzles must be free of obstruction.
- The Contractor must ensure that the alarm displays and sirens work properly. The Contractor must weigh each cylinder and record the results. At the end of the refit, the Contractor must provide the Chief Engineer with copies of all certificates.
- When the tests and inspections are completed, the Contractor must reassemble and reactivate the systems.

#### **6.10.3.3 – PROOF OF PERFORMANCE**

**Inspection**

- All work must be completed to the satisfaction of the Chief Engineer, the person responsible for the vessel's maintenance and the TC inspector.

**Tests**

- The Chief Engineer must be present for the system inspection and test.

**Certification**

- The Contractor shall provide the Chief Engineer with two (2) paper copies of maintenance certificates along with the original. The Contractor must also send an electronic copy of all reports and certificates to the Vessel Maintenance Manager.

#### **6.10.3.4 – DELIVERABLES**

**Drawings/reports**

- The Contractor must submit to the Chief Engineer a hard copy of the typed report, detailing the inspections, modifications and repairs made, prior to acceptance of this item. The Contractor must also send an electronic copy of all reports and certificates to the Vessel Maintenance Manager.

### **6.11. HULL AND STRUCTURE**

#### **6.11.1 – REPLACING THE DECK LINE ALONG 24 LINEAR FEET**

##### **6.11.1.1 SCOPE**

Replace the deck line along 24 linear feet.

#### **6.11.1.2 – REFERENCES**

- 05513S06

#### **6.11.1.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- Replace the deck line in several sections for a total of 24 linear feet.
- The deck line is made of flat bar 3/16 in thick and 2 in high and of a tube of 1 in diameter (cedule 40)
- Renew the damaged sections.
- Cut out the damaged sections to remove them and take care not damage the vessel's plating seam.
- Prepare the surfaces for the new sections.
- The new sections shall have their ends welded to the existing bulwark and will be welded to the plating seam along their entire length. Mechanically prepare surfaces so there is bare metal at all locations where welding must be performed.
- Remove internal insulation for the plating sections to be altered, so that it is not damaged during the welding work. The insulation shall be replaced when the work is completed. Seams produced by cutting out insulation shall be closed with adhesive aluminum tape.
- Perform the welding work on the new bulwark sections. Weld beads shall be at full penetration and applied in an alternating fashion to prevent deformation of the metal by heat.
- Welds must be carried out by a qualified welder in compliance with CSA W59.
- For the duration of the welding work, a fire extinguisher must be kept near the work area.
- During the welding work, there shall be a constant fire lookout inside the vessel for the work in progress. Furthermore, the fire lookout shall be maintained for one hour after the welding work is completed.
- Apply a coat of red primer on all replaced sections of the bulwark and their weld beads. If the interior paint burns, below deck, after the welding work, clean and prime the damaged spots before replacing the insulation. Primer will be provided by the Canadian Coast Guard.

#### **6.11.1.4 – PROOF OF PERFORMANCE**

##### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer and the Vessel Maintenance Manager.

### **6.11.2 – REPLACING THE FLAGPOLE SUPPORT**

#### **6.11.2.1 – SCOPE**

Building and installing the flagpole support at the vessel's stern.

#### **6.11.2.2 – REFERENCES**

- 05513S05-Mast holder

### **6.11.2.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- Building a flagpole support according to the attached plans.
- Remove the old support for the pole at centre stern and prepare the deck surface to receive the new flagpole support.
- Perform welding work to keep the new flagpole support in place. Surfaces in contact with the new flagpole support and the deck shall be completely welded at full penetration. Weld beads shall be applied in an alternating fashion to prevent deformation of the metal by heat.
- Welds must be carried out by a qualified welder in compliance with CSA W59.
- For the duration of the welding work, a fire extinguisher must be kept near the work area.
- Apply a coat of red primer to all sections where the paint was damaged by the work, as well as to all weld beads. Mechanically clean deck sections damaged by the work before applying the primer. Primer will be provided by the Canadian Coast Guard.

### **6.11.2.4 – PROOF OF PERFORMANCE**

#### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer and the Vessel Maintenance Manager.

## **6.12.3 – REPAIRS ON THE FORWARD PORT FUEL TANK**

### **6.11.3.1 – SCOPE**

Replace the fill pipe, the forward port fuel tank vent, and the remote control rod grommet for the fuel tank valve.

### **6.11.3.2 – REFERENCES**

- GC-03 Vent au-dessus du pont.jpg, attached
- GC-03 Vent sous le pont.jpg, attached

### **6.11.3.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- Replace a section of the forward port fuel tank fill pipe. This section of pipe begins 4" below the main deck and ends at the tip of the pipe outside.
- The tank must be gas-free. The tank shall be emptied by the Contractor using three barrels and a portable pump. The tank has a capacity of 450 litres and will be almost full. When the work is done, the fuel shall be returned to the tank.
- Replace a section of the forward port fuel tank vent. This section of pipe begins 4" below the main deck and ends at the end of the vent outside.
- Replace the remote control rod grommet for the fuel tank valve.
- All grommets must be replaced with new ones.
- All pipes are made of schedule 40 steel.
- Insulation near places where welding work will be performed shall be removed before work begins and replaced when the work ends, to avoid damaging the insulation. Seams

- produced by cutting out insulation shall be closed with adhesive aluminum tape.
- Follow the instructions in the attached photos.
- The Contractor shall conduct a test to ensure the tank and remote control grommet are watertight after the work is completed.
- Welding work must be done by a qualified welder.
- A primer must be applied to all metal surfaces affected by the work. Primer will be supplied by the CCG.

#### **6.11.3.4 – PROOF OF PERFORMANCE**

##### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer, the person responsible for the vessel's maintenance and the TC inspector.

### **6.12. PROPULSION AND MANOEUVRING SYSTEMS**

### **6.13. VESSEL'S GENERATION OF ELECTRICAL POWER**

### **6.14. POWER DISTRIBUTION**

#### **6.14.1 – ELECTRICAL INSULATION TEST**

##### **6.14.1.1 – SCOPE**

- Conduct insulation tests on the vessel's electrical circuits.

##### **6.14.1.2 – REFERENCES**

- List of electrical circuits on GC-03

##### **6.14.1.3 – TECHNICAL DESCRIPTION**

##### **The Contractor must particularly perform the following work:**

- Conduct insulation tests on all the vessel's AC electrical circuits and record the results in the "List of electrical circuits on GC-03" document.
- All tests shall be performed between phase and ground. For systems containing more than one phase, each phase shall be tested independently.
- Always take the notes on the distribution lists into consideration to prevent damage to equipment, especially navigation equipment.
- The voltages used for the insulation tests are recorded in the "List of electrical circuits on GC-03" document.
- For 120 Vac distribution circuits:
  - Disconnect all devices connected to the circuit to be tested (anything plugged into an outlet).
  - All breakers on the circuit should be closed (ON) to conduct the test.
  - Open (OFF) the breaker for the circuit to be tested.
  - After the tests, return the circuit breakers to their original states.
- For the generators:
  - Open (OFF) the breaker for the generator.

- Remove the fuses for ground leak detection lights.
- Disconnect the voltage regulator.
- Disconnect the voltage sensing unit, if necessary.
- For the electric motors:
  - Open (OFF) the motor breaker.
  - Test all the phases independently downstream of the breaker (between the breaker and the motor).
  - Find and turn on the starter for the motor to be tested, and perform the test on all phases downstream of the breaker, secondary to the contact switch (between the starter and the motor).
  - If anomalies are observed in the starter, they must be noted so that corrections can be made.
- All circuits tested whose results are less than 5 Megaohms shall be investigated to identify and correct the cause of the insulation loss.

#### **6.14.1.4 – PROOF OF PERFORMANCE**

##### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer, the person responsible for the vessel's maintenance and the TC inspector.

#### **6.14.1.5 – DELIVERABLES**

##### **Report**

- The Contractor shall provide the Chief Engineer with two (2) paper copies of the original inspection report. The Contractor must also send an electronic copy of certificates to the Vessel Maintenance Manager.
- The report must be made with the document "List of electrical circuits on GC-03" digitally filled out, signed and dated by the person who performed the work.
- The report shall indicate the make, model and serial number of the electrical insulation measuring device, as well as its certification/calibration.

**6.15. AUXILIARY SYSTEMS**

N/A

**6.16. DOMESTIC SYSTEMS**

N/A

**6.17. DECK EQUIPMENT / VESSEL SUPPORT SYSTEMS**

N/A

**6.18. COMMUNICATION AND NAVIGATION SYSTEMS**

N/A

**6.19. INTEGRATED CONTROL SYSTEMS**

N/A

<b>7. CCGS F.C.G. SMITH (F 005)</b>		
Maintenance Manager:	Email:	Office: : Cell: :

## **7.10 – SAFETY AND SECURITY EQUIPMENT**

### **7.10.1 INSPECTION OF PORTABLE AND GALLEY FIRE EXTINGUISHERS**

#### **7.10.1.1 - SCOPE**

- The Contractor must inspect all extinguishers and renew the certification of all extinguisher for which the certification date is expired.

#### **7.10.1.2 - REFERENCE**

- F.C.G. SMITH –Extincteurs portatifs

#### **7.10.1.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- An annual inspection of the portable and fixed fire extinguishers in the galley shall be carried out. Fire extinguisher inspection and maintenance must be entrusted to a qualified representative.
- The Contractor must remove the fire extinguishers in a sequence such that the number of fire extinguishers off the vessel is never more than a third of those that are on board. The Chief Engineer will determine the order in which the fire extinguishers must leave the vessel.
- The Contractor must include the price of preventive maintenance and maintenance, hydrostatic testing, refilling, and annual inspection according to the information found in the table.
- Once the maintenance has been completed, the Contractor must return all the fire extinguishers to the vessel and put them back in place according to the Chief Engineer's instructions.

#### **7.10.1.4 – PROOF OF PERFORMANCE**

##### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer and the TC inspector.

##### **Tests**

- Fire extinguisher testing shall be done in compliance with Transport Canada regulations.

##### **Certification**

- The Contractor must provide the Chief Engineer with two (2) paper copies of maintenance certificates along with the original. The Contractor must also send an electronic copy of all reports and certificates to the Vessel Maintenance Manager.

#### **7.10.1.5 – DELIVERABLES**

##### **Drawings/reports**

- The Contractor must provide the Chief Engineer with two (2) paper copies of reports and checklists that explain in detail the work and necessary modifications. The Contractor must also send an electronic copy of all reports to the Vessel Maintenance Manager.

### **7.10.2 ANNUAL INSPECTION OF FIXED FIRE SUPPRESSION SYSTEM**

#### **4.10.3.1 – SCOPE**

- The purpose of this specification is to perform maintenance on and certify the fixed fire suppression system on the CCGS Smith.
- The Contractor must communicate with the Chief Engineer before undertaking the work for this item. This work must be performed in conjunction with the portable fire extinguisher maintenance without reducing the fire suppression capacity aboard the vessel.
- The fixed fire suppression system is a Sapphire Novec 1230 system.

#### **7.10.2.2 - REFERENCES**

RM-3364 - 209261 Bâtiment Smith 30x36

#### **7.10.2.3 – TECHNICAL DESCRIPTION**

##### **The Contractor must particularly perform the following work:**

- The Contractor must provide authorized workforce who will test and inspect the vessel's Novec 1230 system as part of the annual inspection and certification of this system. The Chief Engineer must attend all tests.
- Aside from the following tests, the Contractor shall perform all tests required by the TC inspector on site. In the estimate, the Contractor must provide the cost of testing the alarms (indicator lights and sirens) on all devices, testing the nitrogen-releasing cylinders, testing ventilation closure devices, and testing slack loops and cables.
- The Contractor must use air pressure to clean the pipes and pneumatic actuators and ensure that they work properly. The pipes and nozzles must be free of obstruction.
- The Contractor must ensure that the alarm displays and sirens work properly. The Contractor must weigh each cylinder and record the results. At the end of the refit, the Contractor must provide the Chief Engineer with copies of all certificates.
- When the tests and inspections are completed, the Contractor must reassemble and reactivate the systems.

#### **7.10.2.4 – PROOF OF PERFORMANCE**

##### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer, the person responsible for the vessel's maintenance and the TC inspector.



**Tests**

- The Chief Engineer must be present for the system inspection and test.

**Certification**

- The Contractor shall provide the Chief Engineer with two (2) paper copies of maintenance certificates along with the original. The Contractor must also send an electronic copy of certificates to the Vessel Maintenance Manager.

**7.10.2.5 – DELIVERABLES**

**Drawings/reports**

- The Contractor must submit to the Chief Engineer a hard copy of the typed report, detailing the inspections, modifications and repairs made, prior to acceptance of this item. The Contractor must also send an electronic copy of the report to the Vessel Maintenance Manager.

**7.10.3 ELECTRICAL FIRE PUMPS**

**7.10.3.1 - GENERAL DESCRIPTION**

- Inspect, test and certify the electrical fire pump and the attached priming pump.

**7.10.3.3 – DESCRIPTION TECHNIQUE**

Bilge pump brand: DESMI  
Bilge pump model: SL-70-265  
Bilge pump serial number: 42103-1  
Priming pump brand: DESMI  
Priming pump model: 114  
Priming pump serial number: 904953

**The Contractor must particularly perform the following work:**

- Disassemble and inspect the fire pump including the priming pump. Padlock the pump motor power breaker. Disconnect the pump and its motor. Take the necessary measures to protect the pipes and electrical installations during the overhaul.
- Take the pump wear measurements. Identify parts that do not comply with the manufacturer's specifications or that show abnormal signs of wear, and give the details to the CCG representative. Defective parts will be replaced by new, original parts and will be processed using form 1379.
- Check the condition of the motor bearings. Use a jet of compressed air to clean the motor winding. Perform a complete insulation test (Megger test) on the motor winding and mount. Defective parts will be replaced by new, original parts and will be processed using form 1379.
- Reassemble the pump and its motor with the new parts, install it in its proper place and reconnect it to its piping with the new fittings. Align the pump and

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its motor. Perform tests to demonstrate that the pump works properly once it is back in place.

#### **7.10.3.4 – PROOF OF PERFORMANCE**

##### **Inspection and certification**

- The internal inspection and tests shall be done in the presence and to the complete satisfaction of the Canadian Coast Guard and the Transport Canada inspector. The Contractor is responsible for contacting Transport Canada about the inspections.
- All replaced parts shall be given back to the CCG representative.

##### **Report**

- The Contractor shall provide the Chief Engineer with two (2) paper copies and one electronic copy of a report outlining the measurements taken, the parts changed and the alignment between the pump and its motor, along with any other relevant comments on the wear or general condition of the pump.

#### **7.10.4 FIRE PUMP ATTACHED TO THE PROPULSION ENGINE**

##### **7.10.4.1 - GENERAL DESCRIPTION**

- Inspect, test and certify the fire pump attached to the propulsion engine.

##### **7.10.4.3 – TECHNICAL DESCRIPTION**

Pump brand: DESMI

Pump model: S-70-50-275/A09

Pump serial number: 000 000

##### **The Contractor must particularly perform the following work:**

- Disassemble and inspect the fire pump attached to the main engine. Disconnect the pump from the clutch to bring it to the workshop. Take the necessary measures to protect the pipes and the clutch during the inspection.
- Take the pump wear measurements. Identify parts that do not comply with the manufacturer's specifications or that show abnormal signs of wear, and give the details to the CCG representative. Defective parts will be replaced by new, original parts and will be processed using form 1379.
- Reassemble the pump with new parts, install it in its place and reconnect it to the piping with new fittings. Align and connect the pump and the clutch. Conduct 15 minutes of testing to ensure that the pump is functioning properly once it is replaced.

#### **7.10.4.4 – PROOF OF PERFORMANCE**

##### **Inspection and certification**

- The internal inspection and tests shall be done in the presence and to the complete satisfaction of the Canadian Coast Guard and the Transport Canada

inspector. The Contractor is responsible for contacting Transport Canada about the inspections.

- All replaced parts shall be given back to the CCG representative.

#### **7.10.4.5 – DELIVERABLES**

##### **Report**

- The Contractor shall provide the Chief Engineer with two (2) paper copies and one electronic copy of a report outlining the measurements taken, the parts changed and the alignment between the pump and the clutch, along with any other relevant comments on the wear or general condition of the pump.

### **7.11. HULL AND STRUCTURE**

N/A

### **7.12. PROPULSION AND MANOEUVRING SYSTEMS**

#### **7.12.1 STARBOARD STEERING GEAR**

##### **7.12.1.1 - SCOPE**

- Replace the seal ring on the rod side of both the steering gear's hydraulic jacks.

##### **7.12.1.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- Disconnect the hydraulic hoses from the starboard steering gear's two hydraulic cylinders and take the necessary measures to protect them during the work.
- Remove the two hydraulic cylinders from the steering gear to bring them to the workshop. Take the measures necessary to protect the cylinders while handling them for the duration of the work. Take the measures necessary to ensure the rudder stock does not move during the work period.
- Replace the cylinders' rod-side seal rings with new seal rings according to the manufacturer's recommendations.
- Perform an overall visual inspection of the two jacks to detect any anomalies. If necessary, the defective parts shall be replaced with new parts in accordance with the manufacturer's recommendations and will be processed using form 1379.
- Conduct the necessary tests in the workshop to ensure the cylinders are watertight before bringing them back to the vessel.
- Reinstall the hydraulic cylinders and hydraulic hoses in place. Purge the hydraulic system to remove the air. Add hydraulic oil to the hydraulic tank for the starboard steering gear as needed. New hydraulic oil will be supplied by

the Coast Guard. The supplier shall ensure that the oil is free of any contamination.

- A 30-minute operations test will be carried out at the dock to ensure the steering gear is functioning properly and that the cylinders are watertight once in place and operational. The test shall demonstrate the proper functioning of the system at all rudder positions.
- The Contractor shall comply with the legislation and regulations in force for the disposal of used oil.

#### **7.12.1.4 – PROOF OF PERFORMANCE**

##### **Inspection and certification**

- Watertightness tests and the operations test must be conducted in the presence and to the complete satisfaction of the Canadian Coast Guard and the Transport Canada inspector. The Contractor is responsible for contacting Transport Canada about the inspections.
- All replaced parts shall be given back to the CCG representative.

### **7.12.2 HYDRAULIC PUMPS FOR THE PORTSIDE STEERING GEAR**

#### **7.12.2.1 – SCOPE**

- Replace the coupling between the hydraulic pump and the steering gear.

#### **7.12.2.2 – TECHNICAL DESCRIPTION**

##### **The Contractor must particularly perform the following work:**

- Electrically isolate the pump motor for the duration of the work.
- Replace the coupling between the motor and the pump with a new coupling of the same model. To remove the coupling, the motor must be moved back from its base.
- Once the new coupling is in place, return to the motor to its base and align the pump motor.

#### **7.12.2.3 – PROOF OF PERFORMANCE**

##### **Report**

- The Contractor shall submit to the Chief Engineer a report detailing the measurements during alignment of the engine and the pump. An electronic copy of the report must be sent to the Canadian Coast Guard representative.

### **7.12.3 - ANNUAL MAINTENANCE OF THE MAIN ENGINES**

#### **7.12.3.1 – SCOPE**

- Perform the annual inspection and maintenance of the two (2) main diesel engines and their reducers.

#### **7.12.3.2 – REFERENCES**

- FCG Smith Beaudoin engine manual
- Beaudoin engine maintenance recommendations

#### **7.12.3.3 – TECHNICAL DESCRIPTION**

Engine type: Beaudoin 6P15.2 SR turbo engine

Engine hours: Port 970,729 hrs Starboard: 970730 hrs

Note: the engines received a major overhaul last year.

#### **The Contractor must particularly perform the following work:**

- Provide the services of a specialized diesel engineer for the annual maintenance of Beaudoin diesel engines and their gearboxes.
- The engineer must perform the following work:
  - Visual inspection of engines and gearboxes
  - Clean all heat exchangers
  - Check thermostats
  - Check the drive belts
  - Check air filters
  - Check the engine safeguards.
  - Check valve clearances.
  - Check the condition of the overpressure cap.
  - Replace the two intake manifolds due to leaks.
- In the spring, the technician shall conduct an engine operation test for 1 hour. The engine shall be tested under load.

#### **7.12.3.4 – PROOF OF PERFORMANCE**

- All work shall be completed to the satisfaction of the Chief Engineer.

#### **7.12.3.4 – DELIVERABLES**

- The technician shall submit a written report in hard copy and PDF.
- The following information is to be included:
  - Date of work and date of report
  - Technician name
  - Diagnostic of problems, if necessary
  - Description of work performed
  - A list of materials and all parts replaced or installed.

## **7.13. VESSEL'S GENERATION OF ELECTRICAL POWER**

### **7.13.1 PORT ALTERNATOR**

#### **7.13.1.1 – SCOPE**

- Clean, conduct insulation testing, and certify the port alternator.

#### **7.13.1.2 – TECHNICAL DESCRIPTION**

Alternator brand: STAMFORD

Alternator model: MSC334C

Alternator serial number: JS012/1

Alternator power: 169KVA/230V/3 phases

#### **The Contractor must particularly perform the following work:**

- Padlock the power breaker and starting valve of the port side alternator engine. Perform an insulation test (Megger test) on the alternator prior to cleaning. Disconnect the voltage regulator, taking care to mark the wires (the voltage regulator must not be connected to the exciter). Perform the insulation tests between the four windings and the frame.
- Open the alternator access doors. Clean all alternator windings with compressed air. Do not use solvent to clean them.
- Test all exciter diodes to ensure that they work properly.
- After cleaning, close the alternator access doors and redo the insulation test on the alternator stator (Megger test). Ensure that the voltage regulator is fully disconnected. Perform the insulation tests between the windings and the frame.
- Once the insulation tests are complete, reconnect the voltage regulator. Close the alternator access doors. Remove the lock on the power breaker and starting valve of the alternator engine.
- In the presence of the CCG representative, start the alternator engine following the steps in the relevant procedure. Test that the alternator works properly by charging it for one hour. Ensure that the charge on the alternator does not exceed its capacity.
- Take the alternator temperature readings using an infrared thermometer and record them. Take a minimum of five readings, one at the front of the alternator, three in the centre, and one at the back.
- A report shall be produced containing the readings from the insulation tests before and after cleaning, the diode test, the temperature readings and any other relevant comments on the wear or general condition of the alternator.
- The work must be done by a qualified electrician.

#### **7.13.1.3 – PROOF OF PERFORMANCE**

##### **Inspection and certification**

- The insulation testing and other tests shall be done in the presence and to the complete satisfaction of the Canadian Coast Guard and the Transport Canada

inspector. The Contractor is responsible for contacting Transport Canada about the inspections.

- All replaced parts shall be given back to the CCG representative.

#### **7.13.1.4 – DELIVERABLES**

##### **Report**

- The Contractor shall provide the Chief Engineer with two (2) paper copies and provide the Vessel Maintenance Manager with one electronic copy of a report containing the readings from the insulation tests before and after cleaning, the diode test, the temperature readings and any other relevant comments on the wear or general condition of the alternator.

### **7.13.2 STARBOARD ALTERNATOR**

#### **7.13.2.1 – GENERAL DESCRIPTION**

- Clean, conduct insulation testing, and certify the starboard alternator.

#### **7.13.2.2 – TECHNICAL DESCRIPTION**

Alternator brand: STAMFORD

Alternator model: MSC334C

Alternator serial number: JS012/2

Alternator power: 169KVA/230V/3 phases

#### **The Contractor must particularly perform the following work:**

- Padlock the power breaker and starting valve of the starboard alternator engine. Perform an insulation test (Megger test) on the alternator prior to cleaning. Disconnect the voltage regulator, taking care to mark the wires (the voltage regulator must not be connected to the exciter). Perform the insulation tests between the windings and the frame.
- Open the alternator access doors. Clean all alternator windings with compressed air. Do not use solvent to clean them.
- Test all exciter diodes to ensure that they work properly.
- After cleaning, close the alternator access doors and redo the insulation test on the alternator stator (Megger test). Ensure that the voltage regulator is fully disconnected. Perform the insulation tests between the four windings and the frame.
- Once the insulation tests are complete, reconnect the voltage regulator. Close the alternator access doors. Remove the lock on the power breaker and starting valve of the alternator engine.
- In the presence of the CCG representative, start the alternator engine following the steps in the relevant procedure. Test that the alternator works properly by charging it for one hour. Ensure that the charge on the alternator does not exceed its capacity.

- Take the alternator temperature readings using an infrared thermometer and record them. Take a minimum of five readings, one at the front of the alternator, three in the centre, and one at the back.
- A report shall be produced containing the readings from the insulation tests before and after cleaning, the diode test, the temperature readings and any other relevant comments on the wear or general condition of the alternator.
- The work must be done by a qualified electrician.

#### **7.13.2.4 – PROOF OF PERFORMANCE**

##### **Inspection and certification**

- The insulation testing and other tests shall be done in the presence and to the complete satisfaction of the Canadian Coast Guard and the Transport Canada inspector. The Contractor is responsible for contacting Transport Canada about the inspections.
- All replaced parts shall be given back to the CCG representative.

#### **7.13.2.5 – DELIVERABLES**

##### **Report**

- The Contractor shall provide the Chief Engineer with two (2) paper copies and provide the Vessel Maintenance Manager with one electronic copy of a report containing the readings from the insulation tests before and after cleaning, the diode test, the temperature readings and any other relevant comments on the wear or general condition of the alternator.

### **7.14. POWER DISTRIBUTION**

#### **7.14.1 – ELECTRICAL INSULATION TEST**

##### **7.14.1.1 – SCOPE**

- Conduct insulation tests on the vessel's AC electrical circuits as requested by the Canadian shipping act for vessel of more than 20 years old.

##### **7.14.1.2 – REFERENCES**

- List of electrical circuits on the Smith

##### **7.14.1.3 – TECHNICAL DESCRIPTION**

##### **The Contractor must particularly perform the following work:**

- Conduct insulation tests on all the vessel's AC electrical circuits and record the results in the "List of electrical circuits on the Smith" document.
- All tests shall be performed between phase and ground. For systems containing more than one phase, each phase shall be tested independently.
- Always take the notes on the distribution lists into consideration to prevent damage to equipment.



- 
- The voltages used for the insulation tests are recorded in the "List of electrical circuits on the Smith" document.
  - For distribution circuits:
    - Disconnect all devices connected to the circuit to be tested (anything plugged into an outlet).
    - All breakers on the circuit should be closed (ON) to conduct the test.
    - Open (OFF) the breaker for the circuit to be tested.
  - For the generators:
    - Open (OFF) the breaker for the generator.
    - Disconnect the voltage regulator.
  - For the electric motors:
    - Open (OFF) the motor breaker.
    - Test all the phases independently downstream of the breaker (between the breaker and the motor).
    - Find and turn on the starter for the motor to be tested, and perform the test on all phases downstream of the breaker (between the starter and the motor).
  - All circuits tested whose results are less than 5 Megaohms shall be investigated to identify and correct the cause of the insulation loss.

#### **7.14.1.4 – PROOF OF PERFORMANCE**

##### **Inspection**

- All work must be completed to the satisfaction of the Chief Engineer, the person responsible for the vessel's maintenance and the TC inspector.

#### **7.14.1.5 – DELIVERABLES**

##### **Report**

- The Contractor shall provide the Chief Engineer with two (2) paper copies of the original inspection report. The Contractor must also send an electronic copy of certificates to the Vessel Maintenance Manager.
- The report must be made with the document "List of electrical circuits on the Smith" digitally filled out, signed and dated by the person who performed the work.
- The report shall indicate the make, model and serial number of the device used to perform the electrical insulation tests.

### **7.15. AUXILIARY SYSTEMS**

#### **7.15.1 ELECTRIC BILGE PUMP**

##### **7.15.1.1 - SCOPE**

- Inspect, test and certify the electric bilge pump, including its priming pump.

##### **7.15.1.3 – TECHNICAL DESCRIPTION**

Bilge pump brand: DESMI

Bilge pump model: SL-70-265  
Bilge pump serial number: 42103-2  
Priming pump brand: DESMI  
Priming pump model: 114  
Priming pump serial number: 904952

**The Contractor must particularly perform the following work:**

- Disassemble and inspect the bilge pump including the priming pump. Padlock the pump motor power breaker. Disconnect the pump and its motor. Take the necessary measures to protect the pipes and electrical installations during the overhaul.
- Take the pump wear measurements. Identify parts that do not comply with the manufacturer's specifications or that show abnormal signs of wear, and give the details to the CCG representative. Defective parts will be replaced by new, original parts and will be processed using form 1379.
- Check the condition of the motor bearings. Use a jet of compressed air to clean the motor winding. Perform a complete insulation test (Megger test) on the motor winding and mount. Defective parts will be replaced by new, original parts and will be processed using form 1379.
- Reassemble the pump and its motor, install them in their proper place and reconnect them to their piping with the new fittings. Align the pump and its motor. Conduct 15 minutes of testing to ensure that the pump is functioning properly once it is replaced. The tests must show that the pump establishes the required pressure.

**7.15.1.4 – PROOF OF PERFORMANCE**

**Inspection and certification**

- The internal inspection and tests shall be done in the presence and to the complete satisfaction of the Canadian Coast Guard and the Transport Canada inspector. The Contractor is responsible for contacting Transport Canada about the inspections.
- All replaced parts shall be given back to the CCG representative.

**7.15.1.5 – DELIVERABLES**

**Report**

- The Contractor shall provide the Chief Engineer with two (2) paper copies and one electronic copy of a report outlining the measurements taken, the parts changed and the alignment between the pump and its motor, along with any other relevant comments on the wear or general condition of the pump.

## **7.15.2 BILGE PUMP ATTACHED TO THE PROPULSION ENGINE**

### **7.15.2.1 - SCOPE**

- Inspect, test and certify the bilge pump attached to the propulsion engine.

### **7.15.2.2 – TECHNICAL DESCRIPTION**

Pump brand: DESMI  
Pump model: S-70-50-275/A09  
Pump serial number: 670 053

#### **The Contractor must particularly perform the following work:**

- Disassemble and inspect the bilge pump attached to the main engine. Disconnect the pump from the. Take the necessary measures to protect the pipes and the clutch during the inspection.
- Take the pump wear measurements. Identify parts that do not comply with the manufacturer's specifications or that show abnormal signs of wear, and give the details to the CCG representative. Defective parts will be replaced by new, original parts and will be processed using form 1379.
- Reassemble the pump with new parts, install it in its place and reconnect it to the piping with new fittings. Align the pump and the clutch. Conduct 15 minutes of testing to ensure that the pump is functioning properly once it is replaced. The pump must establish sufficient pressure.

### **7.15.2.3 – PROOF OF PERFORMANCE**

#### **Inspection and certification**

- The internal inspection and tests shall be done in the presence and to the complete satisfaction of the Canadian Coast Guard and the Transport Canada inspector. The Contractor is responsible for contacting Transport Canada about the inspections.
- All replaced parts shall be given back to the CCG representative.

### **7.15.2.4 – DELIVERABLES**

#### **Report**

- The Contractor shall provide the Chief Engineer with two (2) paper copies and one electronic copy of a report outlining the measurements taken, the parts changed and the alignment between the pump and the clutch, along with any other relevant comments on the wear or general condition of the pump.

## **7.16. DOMESTIC SYSTEMS**

### **7.16.1 CLEANING AND INSPECTION OF THE CENTRAL VENTILATION SYSTEM**

#### **7.16.1.1 – GENERAL DESCRIPTION**

- Conduct a thorough cleaning of ventilation system.

#### **7.16.1.2 – REFERENCES**

- FCG Smith Arrgt gen 45009

#### **7.16.1.3 – TECHNICAL DESCRIPTION**

**The Contractor must particularly perform the following work:**

- Conduct a thorough cleaning of the ship's ventilation system using mechanical suction/pulsing/brushing (octopus) methods and a vacuum equipped with a HEPA filter.
- The ventilation system includes the following components: the central ventilation ducts for the dryer and the bathroom; heat exchangers; diffusers; and external air intake.
- Degrease the galley hood, including its fan and exhaust duct.
- The Contractor shall take the necessary measures to adequately protect furniture and equipment during the work.

#### **7.16.1.4 – PROOF OF PERFORMANCE**

##### **Inspection and certification**

- The work shall be done to the satisfaction of the Canadian Coast Guard representative.

#### **7.16.1.5 – DELIVERABLES**

##### **Report**

- The Contractor shall provide the Chief Engineer with two (2) paper copies and one electronic copy of a report indicating the general condition of the ventilation system before and after the work. This report must include photos of the various components of the ventilation system before and after cleaning.

### **7.17. DECK EQUIPMENT / VESSEL SUPPORT SYSTEMS**

N/A

### **7.18. COMMUNICATION AND NAVIGATION SYSTEMS**

N/A

### **7.19. INTEGRATED CONTROL SYSTEMS**

N/A