Public Works and Government Services Canada | Travaux publics et Services gouvernementaux Canada

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

Title - Sujet Travaux navires Sorel 2018	
Solicitation No. - N° de l'invitation F3065-17N423/A	**Date** 2018-01-10
Client Reference No. - N° de référence du client F3065-17N423	**GETS Ref. No. - N° de réf. de SEAG** PW-$QCL-041-17312
File No. - N° de dossier QCL-7-40220 (041)	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2018-01-31**	**Time Zone** **Fuseau horaire** Heure Normale du l'Est HNE
F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes **Plant-Usine:** ☐ **Destination:** ☐ **Other-Autre:** ☑	
Address Enquiries to: - Adresser toutes questions à: Deblois, Vincent	**Buyer Id - Id de l'acheteur** qcl041
Telephone No. - N° de téléphone (418) 649-2712 ( )	**FAX No. - N° de FAX** (418) 648-2209

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:
Pêches et Océans
NGCC Leim, GC03, Ile St-Ours,
FCG Smith
101 Boul Champlain
QUEBEC
Québec
G1K7Y7
Canada

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Delivery Required - Livraison exigée Voir doc	**Delivery Offered - Livraison proposée**

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Telephone No. - N° de téléphone
Facsimile No. - N° de télécopieur

Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)
Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)

Signature **Date**

Issuing Office - Bureau de distribution
TPSGC/PWGSC
601-1550, Avenue d'Estimauville
Québec
Québec
G1J 0C7

Canada

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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 Ship C.C.G.S. Leim (L023), C.C.G.S. Île Saint-Ours (I002) et le C.C.G.S. Coast Guard 03 (C035) during the winter in Sorel, QC, in accordance with the associated Technical Specifications detailed in the Requirement attached as Annex A.

b) To carry out any approved unscheduled work not covered in paragraph a) above.

(ii) The requirement is exempt from the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), Annex 4 and the North American Free Trade Agreement (NAFTA), Chapter 10 Annex 1001.2b Paragraph 1, however, it is subject to the Canadian Free Trade Agreement (CFTA).

1.3 Debriefings

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

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

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

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

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

2.2 Submission of Bids

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

2.3 Enquiries - Bid Solicitation

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

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

2.4 Applicable Laws

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

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

2.5 Bidders' Conference *(Optional)*

A bidders' Conference chaired by the Contracting Authority will be convened at 10:00 AM, January 18th, 2018. The vessel will be moored at Fisheries and Oceans Canada – Coast Guard Wharf, at 15, du Prince Street, Sorel-Tracy (QC) J3P 4J4.

2.6 Viewing – Vessel *(Optional)*

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

2.7 Proposed Work Period

Work is to commence and be completed as follows:

- Leim: From the Contract award date to March 16th, 2018
- Ile Saint Ours: From the Contract award date to March 9th, 2018
- Garde Côte 03: From the Contract award date to March 23, 2018

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

2.8 Docking Facility *(Not used)*

2.9 List of Proposed Sub-contractors

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

2.10 Quality Plan - Solicitation *(Not used)*

2.11 Inspection and Test Plan *(Not used)*

2.12 Vessel Refit, Repair or Docking - Cost

All charges, fees expenses and disbursements incidental to the carrying out of the Work, including all items described in Supplemental General Conditions 1029 (2010-08-16) Ship Repair, section (07), are included in the Evaluation Price (and in the Contract Price under the Contract), including, without limitation:

1. **Services** *(Not used)*

2. **Docking and Undocking** *(Not used)*

3. **Field Service Representatives/Supervisory Services:** include all costs for field service representatives/supervisory services including manufacturers' representatives, engineers, etc.

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

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

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

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

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

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

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

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

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

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

(1) use paper containing fibre certified as originating from a sustainably-managed forest and/or containing minimum 30% recycled content; and

(2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Management Bid

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

Section II: Financial Bid

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

Section III: Certification Requirements

Bidders must submit the certifications required under Part 5.

3.1.2 Unscheduled Work and Evaluation Price

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

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

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

(a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical, management and financial evaluation criteria specified below.

(b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Financial Bid

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

4.1.2 Mandatory Criteria

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

4.1.3 Table of Mandatory Requirements to be met by bid closing

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

Item	Description	Completed and Attached
1	Completed Annex "I" Financial Bid presentation Sheet	
2	Completed Appendix 1 to Annex "I" Price Per Item Sheet	
3	Technical bid in accordance with Annex K – Mandatory Technical Evaluation Criteria Presentation Sheets	

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	Letter or proof of Insurance as per article 6. 13 of Part 6	Prior to contract award
3	Sub-contract and Sub-contractor List , as per clause 7.15 of Part 7	Prior to contract award
4	Annex J – Pricing Data Sheet;	Prior to contract award

4.1.5 Deliverables after Contract award

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

4.2 Basis of Selection

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

4.2.1 Equivalent Products

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

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.

PART 5 - CERTIFICATIONS

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

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

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

5.1 Certifications Required with the Bid

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

5.1.1 Integrity Provisions - Declaration of Convicted Offences

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

5.2. Mandatory Certifications Required Precedent to Contract Award

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

5.2.1 Code of Conduct and Certifications - Related documentation

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

5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

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

(http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969).

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.

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 9001:2008 - 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".

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 Ship C.C.G.S. Leim (L023), C.C.G.S. Île Saint-Ours (I002) et le C.C.G.S. Coast Guard 03 (C035) during the winter 2018 in Sorel, QC, in accordance with the associated Technical Specifications detailed in the Requirement attached as Annex A.

b) to carry out any approved unscheduled work not covered in paragraph a) Above.

2. Standard Clauses and Conditions

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

2.1 General Conditions

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

Section 22 of 2030 is amended in Annex E Warranty.

2.2 Supplemental General Conditions

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

3. Security Requirement

There is no security requirement associated with this Statement of Work

4. Term of Contract

4.1 Contract period

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

4.2 Work period

Work is to commence and be completed as follows:

Leim: From the Contract award date to March 16th, 2018

Ile Saint Ours: From the Contract award date March 9th, 2018

Garde Côte 03: From the Contract award date to March 23, 2018

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
Marine Supply Chief

The administrative agent in charge of the file is:

Vincent DeBlois
Public Works and Government Services Canada
Québec area
Marine division
1550, avenue D'Estimauville, Québec, (Québec) G1J 0C4,
Quebec, Canada
vincent.deblois@tpsgc-pwgsc.gc.ca
Téléphone/phone: (418) 649-2712
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.

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.

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 (2017-08-17)	Limitation of Price
SACC Manual Clause	H4500C (2010-01-11)	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, (2016-04-04), 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

[redacted]

Mailing Address :

Pêches et Océans Canada
PO Box 1901, STN A
Fredericton (Nouveau-Brunswick)
E3B 5G4
Electronic copy to be sent for verification to:
vincent.deblois@tpsgc-pwgsc.gc.ca

7.3 Warranty Holdback

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

8. Certifications

8.1 Generality

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

9. Applicable Laws

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

10. Priority of Documents

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

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

11. Insurance Requirements

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

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

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

12. Financial Security *(Not used)*

13. Accommodation *(Not used)*

14. Parking *(Not used)*

15. Sub-contracts and Sub-contractor List

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

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

16. Work Schedule and Reports

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

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

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

17. Insulation Materials - Asbestos Free

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

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

19. Trade Qualifications

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

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

21. ISO 9001:2008 - Quality Management Systems *(Not used)*

22. Quality Control Plan

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.

24. Environmental Protection

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

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

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

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

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

26. Procedure for Design Change or Additional Work

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

26.1 Price Breakdown:

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.

29. Vessel Custody *(Not used)*

30. Vessel manned Refits

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

31. Pre-Refit Meeting

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

32. Meetings

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

36. Government Site Regulations

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

37. Scrap and Waste Material

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

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

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

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

41. Defence Contract

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

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

1. This section applies despite any other provision of the Contract and replaces the section of the general conditions entitled "Liability". Any reference in this section to damages caused by the Contractor also includes damages caused by its employees, as well as its subcontractors, agents, and representatives, and any of their employees.

2. Whether the claim is based in contract, tort, or another cause of action, the Contractor's liability for all damages suffered by Canada caused by the Contractor's performance of or failure to perform the Contract is limited to $10 million per incident or occurrence to an annual aggregate of $20 million for losses or damage caused in any one year of carrying out the Contract, each year starting on the date of coming into force of the Contract or its anniversary. This limitation of the Contractor's liability does not apply to nor include:

   (a) Any infringement of intellectual property rights;

   (b) Any breach of warranty obligations;

   (c) Any liability of Canada to a third party arising from any act or omission of the Contractor in performing the Contract; or

   (d) Any loss for which the policies of insurance specified in the Contract or any other policies of insurance held by the Contractor would provide insurance coverage.

3. Each Party agrees that it is fully liable for any damages that it causes to any third party in connection with the Contract, regardless of whether the third party makes its claim against Canada or the Contractor. If Canada is required, as a result of joint and several liability, to pay a third party in respect of damages caused by the Contractor, the Contractor must reimburse Canada for that amount.

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 Contact 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.

ANNEX A

REQUIREMENT – TECHNICAL SPECIFICATION

See electronic Annex.

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

A)	**Known Work** 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)	**Applicable taxes _____ % :**	$_____
C)	**Total Firm Price :**	$_____

B2 Unscheduled Work

Payment for Unscheduled Work:

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

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

B2.1: Notwithstanding definitions or useage elsewhere in this document, or in the Bidder's Cost Management System, when negotiating *Hours* for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package.Elements of *Related Labour Costs* identified in B2.2 below, will not be negotiated, but will be included in the firm hourly Charge-out Labour Rate in accordance with paragraph B2.2

B2.2: Allowance for *Related Labour Costs* such as: Management, Direct Supervision, Purchasing and Material Handling, Quality Assurance and Reporting, First Aid, Gas Free Inspecting and Reporting, and Estimating will be included as *Overhead* within the *firm hourly Charge-out Labour Rate* entered in line B2 above.

B2.3: The 10% mark-up rate for materials will also apply to subcontracted costs. The mark-up rate includes any allowance for material and subcontract management not allowed for in the Chargeout Labour Rate. The Contractor will not be entitled to a separate labour component for the purchase and handling of materials or subcontract administration.

B3 Overtime

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

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

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

Premium for Double time: $ _____ per hour

The above premiums rates shall be calculated as follows:

Premium for time and one half:

½ (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.

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.

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.

(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.

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.

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.

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.

E2.5 Procedures

(a) Immediately it becomes known to the Ship's Staff that an equipment/system is performing below accepted standards or has become defective, the procedures for the investigation and reporting are as follows:

(i) The vessel advises the Technical Authority when a defect, which is considered to be directly associated the refit work, has occurred.

(ii) On review of the Specification and the Acceptance Document, the Technical Authority in consort with Ship's Staff is to complete the Tombstone Data and section 1 of the Warranty Claim Form and forward the original to the Contractor for review with a copy to the PWGSC contracting Authority. If the PWGSC Contracting or Inspection Authority is unable to support warranty action, the Defect Claim Form will be returned to the originator with a brief justification. (It is to be noted that in the latter instance PWGSC will inform the Contractor of its decision and no further action will be required of the Contractor.

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

(iii) Assuming the Contractor accepts full responsibility for repair, the Contractor completes Section 2 and 3 of the Warranty Claim Form, returns it to the Inspection Authority who confirms corrective action has been completed, and who then distributes the form to the Technical Authority and the PWGSC Contracting Authority.

(b) In the event that the Contractor disputes the claim as a warranty defect, or agrees to share, the contractor is to complete Part 2 of the Warranty Claim Form with the appropriate information and forward it to the Contracting Authority who will distribute copies as necessary.

(c) When a warranty defect claim is disputed by the Contractor, the Technical Authority may arrange to correct the defect by in-house resources or by contracting the work out. All associated costs must be tracked and recorded as a possible charge against the contractor by PWGSC action. Material costs and man-hours expended in correcting the defect are to be recorded and entered in Section 5 of the warranty defect claim by the Technical Authority who will forward the warranty defect claim to the PWGSC Contracting Authority for action. Defective parts of equipment are to be retained pending settlement of claim.

(d) Defective equipment associated with potential warranty should not normally be dismantled until the contractor's representative has had the opportunity to observe the defect. The necessary work is to be undertaken through normal repair methods and costs must be segregated as a possible charge against a contractor by PWGSC action.

E2.6 Liability

(a) Agreement between the Contracting Authority, Inspection Authority, Technical Authority and the Contractor will result in one of the following conditions:

(i) The contractor accepts full responsibility for costs to repair or overhaul under the warranty provisions of the contract;

(ii) The Technical Authority accepts full responsibility for repair and overhaul of item concerned; or

(iii) The Contractor and the Technical Authority agree to share responsibility for the costs to repair or overhaul the unserviceable item, in such cases the PWGSC Contracting Authority will negotiate the best possible sharing arrangement.

(b) In the event of a disagreement as in paragraph 5c, PWGSC will take necessary action with the contractor while the Technical Authority informs its Senior Management including pertinent data and recommendations.

(c) The total cost of processing warranty claims must include accommodation and travel costs of the contractor's employees as well as equipment/system down time and operational constraints. Accordingly, the cost to remediate the defect, in man-hours and material, will be discussed between the Contracting/Inspection Authorities and the Technical Authority to determine the best course of action.

E2.7 Alongside Period For Warranty Repairs and Checks

(a) If at all possible, an alongside period for the vessel is to be arranged just before the expiration of the 90 day warranty period. This alongside period is to provide time for warranty repair and check by the contractor.

(b) In respect to the underwater paint, should it become defective during the associated warranty period the contractor is only liable to repair to a value determined as follows:

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

(c) The Underwater paint system, before expiration of the warranty, should be checked by divers. The Technical Authority, is to arrange the inspection and inform the Contracting Authority of any adverse results.

Appendix 1 of Annex E

Travaux publics et Services gouvernementaux Canada

Public Works and Government Services 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		**Effect on Vessel Operations** **Effet sur des opérations de navire** 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

Contractor's Name and Signature – Nom et signature de l'entrepreneur

Date of Corrective Action - Date de modalité de reprise

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

Signature – Signature

Date

ANNEX F

VESSEL CUSTODY

(NOT USED)

Appendix 1 of Annex F

Acceptance Certificate

(NOT USED)

Annex G

SECURITY REQUIREMENTS CHECK LIST

(NOT USED)

ANNEX H

PROJECT MANAGEMENT SERVICES

(NOT USED)

ANNEX I

FINANCIAL BID PRESENTATION SHEET

I1 Price for Evaluation

A)	**Known Work** 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)	**Unscheduled Work** Contractor *Labour Cost*: Estimated labour hours at a firm *hourly Charge-out Labour Rate*, including overhead and profit for evaluation purpose only: 1000 person hours X $_____ per hour for a PRICE of: **See Note I2.1 and I2.2 below.**	_____ $
C)	**EVALUATION PRICE** 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 useage elsewhere in this document, or in the Bidder's Cost Management System, when negotiating *Hours* for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package.

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

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

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

I3 Overtime

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

a. For Known Work, the Contractor will be paid the original contract price plus agreed overtime hours paid at the following premium rates; or,

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

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

Premium for Double time: $ _____ per hour

The above premiums rates shall be calculated as follows:

Premium for time and one half:

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

Premium for double time:

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

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

I4 Daily Services Fee

Not used

I5 Cost of all Services is Included in Contract Price

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

1. **Services:** Not used

2. **Docking and Undocking:** Not used

3. **Field Service Representatives/Supervisory Services:** include all costs for field service representatives/supervisory services including manufacturers' representatives, engineers, etc.

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

5. **Sheltering, Staging, Cranage and Transportation:** include the cost of all sheltering, staging including handrails, 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

APPENDIX 1 OF ANNEX I

Scheduled Work:

PRICE PER ITEM SHEETS		
Item	**Description – A) SCHEDULED WORK**	**Firm Price**
1 to 4	**General remarks**	**$ _____**
4.10	**C.C.G.S. LEIM – Safety and Security Equipment**	**$ _____**
4.11	**C.C.G.S. LEIM – Hull and Related Structure**	**$ _____**
4.14	**C.C.G.S. LEIM – Electrical distribution**	**$ _____**
4.16	**C.C.G.S. LEIM – Domestic Systems**	**$ _____**
4.17	**C.C.G.S. LEIM – Deck equipment / Vessel support system**	**$ _____**
5.10	**C.C.G.S. ILE ST OURS – Safety and Security Equipment**	**$ _____**
5.11	**C.C.G.S. ILE ST OURS – Hull and Related Structure**	**$ _____**
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**	**$ _____**
5.16	**C.C.G.S. ILE ST OURS – Domestic Systems**	**$ _____**
5.17	**C.C.G.S. ILE ST OURS – Deck equipment / Vessel support system**	**$ _____**
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**	**$ _____**
6.12	**C.C.G.S. GARDE-CÔTE 03 – Propulsion and Manoeuvring Systems**	**$ _____**
6.13	**C.C.G.S. GARDE-CÔTE 03 – Vessel's electrical power generation**	**$ _____**
6.14	**C.C.G.S. GARDE-CÔTE 03 – Power Distribution**	**$ _____**
6.15	**C.C.G.S. GARDE-CÔTE 03 – Auxiliary Systems**	**$ _____**
		$ _____
		$ _____
		$ _____
		$ _____
	A) SCHEDULED WORK - TOTAL FIRM PRICE	**$ _____**

Optional Work:

PRICE PER ITEM SHEETS - Optional Work		
Item	**Description – B) OPTIONAL WORK**	**Firm Price**
		$ __N / A_ _
	NONE	**$ __N / A_ _**
		$ __N / A_ _
	B) OPTIONAL WORK - TOTAL FIRM PRICE	**$ __N / A_ _**

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.

PRICING PER ITEM SHEET SUMMARY		
TOTAL (A) SCHEDULED WORK	**TOTAL (B) OPTIONAL WORK**	**TOTAL KNOWN WORK FIRM PRICE ((A) + (B))**
$ _____	**$ _N / A_____**	**$ _____**

Remark to Bidders:

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

ANNEX J

PRICING DATA SHEETS		
Item	**Description – A) SCHEDULED WORK**	**Firm Price**
1	**General Remarks** (Bidders can enter $0.00 or indicate 'included' if the fees for this item are distributed in each of the items bellow. In case the fees are not distributed an amount must be indicated in the price box.)	**$**_____
2	**General Notes**	**$**_____
3	**Services**	**$**_____
4	**List of acronyms**	
4	**CCGS LEIM**	
4.10	Safety and Security Equipment (Overheads fees related to this item must be distributed in each sub items.)	
	4.10.1 Portable fire extinguishers Provide a price to inspect all fire extinguishers and renew the certification of all extinguishers whose certification date has expired.Unit prices for additional extinguishers are to be included in section B) Optional Work if added by Canada. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 4.10.1 :**	**$** _____
	4.10.2 Fire detection system Provide a price to perform the annual inspection and certification of the fire detection system. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 4.10.2 :**	**$** _____
	4.10.3 Annual inspection of fixed fire suppression system Provide a price to perform maintenance on and certify the fixed fire suppression system on the CCGS *Leim*. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 4.10.3 :**	**$** _____
	:	**$** _____
	Total for 4.10 :	**$**_____

PRICING DATA SHEETS			
Item	**Description – A) SCHEDULED WORK**		**Firm Price**
4.11	Hull and Related Structure (Overheads fees related to this item must be distributed in each sub items.)		
	4.11.1 Replacement of the coating on the lower stairs Provide a price to replace the coating on the stairs between the mess and the lower deck Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 4.11.1 :**	**$** _____	
	4.11.2 Repair on the handrail and the gangway cradle Provide a price to repair the guardrail and gangway cradle located on the upper deck. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 4.11.2 :**	**$** _____	
	Total for 4.11 :		**$**_____

4.14	Electrical distribution (Overheads fees related to this item must be distributed in each sub items.)		
	4.14.1 Electrical insulation test Provide a price to conduct insulation tests on the vessel's electrical circuits. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 4.14.1 :**	**$** _____	
	4.14.2 Calibration on the main circuit breakers and tightening the terminal of the main distribution panel Provide a price to calibrate the main circuit breakers, inspect and tighten all terminals found in the main distribution tables. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 4.14.2 :**	**$** _____	
	Total for 4.14		**$**_____

4.16	Domestic Systems (Overheads fees related to this item must be distributed in each sub items.)		
	4.16.1 Cleaning and inspection of central ventilation systems Provide a price to conduct a thorough cleaning of the ventilation system. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 4.16.1 :**	**$**_____	
	4.16.2 Maintenance and repair of chiller Provide a price to repair, maintain and test the chiller. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 4.16.2**	**$**_____	
	4.16.3 Annual inspection of heating, ventilation, air conditioning and refrigeration system Provide a price to Perform annual inspection of refrigeration systems. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 4.16.3**	**$**_____	
	Total for 4.16 :		**$**_____
4.17	Deck equipment / Vessel support system (Overheads fees related to this item must be distributed in each sub items.)		
	4.17.1 Certification of the boarding gangway and lifting devices Provide a price to certify the boarding gangway and lifting devices. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 4.17.1**	**$**_____	
	Total for 4.17		**$**_____
	ITEM 4 – TOTAL FIRM PRICE FOR THE CCGS LEIM =		**$**_____

PRICING DATA SHEETS			
Item	**Description – A) SCHEDULED WORK**		**Firm Price**
5	**CCGS ILE SAINT OURS**		
5.10	Safety and Security Equipment (Overheads fees related to this item must be distributed in each sub items.)		
	5.10.1 Certification of portable fire extinguishers Provide a price to inspect all fire extinguishers and renew the certification of all extinguishers whose certification date has expired. Unit prices for additional extinguishers are to be included in section B) Optional Work if added by Canada. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 5.10.1 :**	**$**_____	
	5.10.2 Annual inspection of fixed fire suppression system Provide a price to Perform maintenance and certification of the fixed fire suppression system. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 5.10.2 :**	**$**_____	
	Total for 5.10 :		**$**_____
5.11	Hull and Related Structure (Overheads fees related to this item must be distributed in each sub items.)		
	5.11.1 Installation of anchorage on forecastle deck Provide a price to Provide and install three (3) anchorages of the same type or equivalent to those already in place, in order to secure the cargo on the forecastle deck. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 5.11.1:**	**$**_____	
	5.11.2 Installation of four (4) mooring cleats on the main deck Provide a price to fabricate and weld four (4) mooring cleats on the deck at the accommodation level. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 5.11.2:**	**$**_____	**$**_____

PRICING DATA SHEETS

Description – A) SCHEDULED WORK

5.11.3 Move ladder on bridge

Provide a price for the moving off the ladder to access the top of the bridge.

Mobilization / Demobilization = $ _____
Materials, equipment and consumables = $ _____
Labour ; $ _____ /hour X _____ hours = $ _____

Subcontracting (if applicable)
Mobilization / Demobilization = $ _____
Materials, equipment and consumables = $ _____
Labour ; $ _____ /hour X _____ hours = $ _____

Total for item 5.11.3 : **$**_____

5.11.4 Plug the holes on the exhaust system outlets

Provide a price to plug the four (4) holes on the exhaust system outlets.

Mobilization / Demobilization = $ _____
Materials, equipment and consumables = $ _____
Labour ; $ _____ /hour X _____ hours = $ _____

Subcontracting (if applicable)
Mobilization / Demobilization = $ _____
Materials, equipment and consumables = $ _____
Labour ; $ _____ /hour X _____ hours = $ _____

Total for item 5.11.4 : **$**_____

5.11.5 Replacement of suspended ceiling

Provide a price to replace the suspended ceilings in the accommodations on the main deck, the cabins for the Commanding officer, Chief Engineer and sailors, the corridor, the dining room and on the bridge, and dispose of them.

Mobilization / Demobilization = $ _____
Materials, equipment and consumables = $ _____
Labour ; $ _____ /hour X _____ hours = $ _____

Subcontracting (if applicable)
Mobilization / Demobilization = $ _____
Materials, equipment and consumables = $ _____
Labour ; $ _____ /hour X _____ hours = $ _____

Total for item 5.11.5 : _____ **$**

5.11.6 Replacement of bridge doors

Provide a price to replace the two (2) doors and corresponding door frames on the bridge.

Mobilization / Demobilization = $ _____
Materials, equipment and consumables = $ _____
Labour ; $ _____ /hour X _____ hours = $ _____

Subcontracting (if applicable)
Mobilization / Demobilization = $ _____
Materials, equipment and consumables = $ _____
Labour ; $ _____ /hour X _____ hours = $ _____

Total for item 5.11.6 _____ **$**

	5.11.7 Replacement of floor tiles Provide a price to replace floor coverings on the bridge, galley, corridor, and in three (3) cabins. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 5.11.7 :**	_____ **$**	
	Total for 5.11 :		
5.12	Propulsion and Manoeuvring System (Overheads fees related to this item must be distributed in each sub items.)		
	5.12.1 Annual maintenance of main engines, port and starboard transmissions Provide a price to perform the annual maintenance of the two (2) main diesel engines and their reduction gearboxes. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 5.12.1 :**	**$**_____	
	5.12.2 Propeller shaft Tachometers Provide a price to replace the two (2) speed tachometers of the two (2) port and starboard propeller shafts as well as the dial displays on the bridge in one direction of rotation. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 5.12.2 :**	**$**_____	
	Total for 5.12 :		**$**_____

5.13	Vessel's Generation of Electrical Power (Overheads fees related to this item must be distributed in each sub items.)		
	5.13.1 Annual maintenance of port and starboard diesel engine generators Provide a price to perform the annual maintenance of port and starboard diesel engine generators. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 5.13.1 :**	**$**_____	
	Total for 5.13 :		**$**_____
5.14	Power Distribution (Overheads fees related to this item must be distributed in each sub items.)		
	5.14.1 Electrical insulation test Provide a price to conduct insulation tests on the vessel's electrical circuits. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 5.14.1 :**	**$**_____	
	5.14.2 Replace lighting fixtures Provide a price to Replace neon lighting tube fixtures with LED tubes of at least 5000k. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 5.14.2**	**$**_____	
	Total for 5.14 :		**$**_____

5.16	Domestic Systems (Overheads fees related to this item must be distributed in each sub items.)		
	5.16.1 Cleaning and inspection of central ventilation system Provide a price to Perform the annual inspection of the air conditioning system and to perform a complete cleaning of the central ventilation system. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 5.16.1 :**	**$**_____	
		$_____	
	Total for 5.16 :		**$**_____
5.17	Deck equipment / Vessel support system (Overheads fees related to this item must be distributed in each sub items.)		
	5.17.1 QUADRENNIAL (FOUR-YEAR) INSPECTION OF THE HIAB CRANE Provide a price to Proceed with the quadrennial verification of the HIAB Crane, Type 180, SEA series Z3912. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 5.17.1**	**$**_____	**$**_____
	Total for 5.17		**$**_____
	ITEM 5 – TOTAL FIRM PRICE FOR THE CCGS ILOE SAINT OURS =		**$**_____

PRICING DATA SHEETS		
Item	**Description – A) SCHEDULED WORK**	**Firm Price**
6	**CCGS GARDE-CÔTE 03**	
6.10	Safety and Security Equipment (Overheads fees related to this item must be distributed in each sub items.)	
	6.10.1 Portable fire extinguishers Provide a price Inspect all fire extinguishers and renew the certification of all extinguishers whose certification date has expired. Unit prices for additional extinguishers are to be included in section B) Optional Work if added by Canada. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 6.10.1 :** **$**_____	
	6.10.2 Fire detection system Provide a price to perform the annual inspection and certification of the fire detection system. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 6.10.2 :** **$**_____	
	6.10.3 Annual inspection of fixed fire suppression system Provide a price to perform maintenance on and certify the fixed fire suppression system on the CCGS *CG-03*. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 6.10.3 :** **$**_____	
	Total for 6.10 :	**$**_____

6.11	Hull and Related Structure (Overheads fees related to this item must be distributed in each sub items.)		
	6.11.1 Replacement of bridge window Provide a price to supply and replace the port-side window on the front of the bridge. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 6.11.1 :**	**$**_____	
	Total for 6.11 :		**$**_____
6.12	Propulsion and Manoeuvring Systems (Overheads fees related to this item must be distributed in each sub items.)		
	6.12.1 Maintenance - diesel propulsion engine Provide a price to to perform the annual maintenance of diesel engines, transmissions and port and starboard V-drives. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 6.12.1 :**	**$**_____	
	6.12.2 Hydraulic steering gear pump of the manoeuvering system Provide a price to disassemble the steering gear hydraulic pump to change the seal. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 6.12.2 :**	**$**_____	
	Total for 6.12:		**$**_____

6.13	Vessel's electrical power generation Overheads fees related to this item must be distributed in each sub items.)		
	6.13.1 Annual maintenance PORT AND STARBOARD diesel generator engines Provide a price to perform the annual maintenance of port and starboard diesel generator engines. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 6.13.1 :**	**$**_____	
	Total for 6.13		**$**_____
6.14	Power Distribution (Overheads fees related to this item must be distributed in each sub items.)		
	6.14.1 Electric isolation test Provide a price to conduct insulation tests on the vessel's electrical circuits. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 6.14.1 :**	**$**_____	
	Total for 6.14 :		**$**_____

6.15	Auxiliary Systems (Overheads fees related to this item must be distributed in each sub items.)		
	6.15.1 Port electric bilge pump Provide a price to inspect, test, and certify the port side electric bilge pump. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 6.15.1 :**	**$**_____	
	6.15.2 Starboard electric bilge pump Provide a price to inspect, test and certify the starboard electric bilge pump. Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Subcontracting (if applicable)** Mobilization / Demobilization = $ _____ Materials, equipment and consumables = $ _____ Labour ; $ _____ /hour X _____ hours = $ _____ **Total for item 6.15.2 :**	**$**_____	
	Total for 6.15 :		**$**_____
	ITEM 6 – TOTAL FIRM PRICE FOR THE CCGS GARDE COTE 03 =		**$**_____

ANNEX « K »

Technical bid presentation sheet

Id.	Description	Technical references within the bid documents (page #, paragraph, etc.)
Financial Bid		
4.1.3 1)	Provide information in accordance with Annexe I – Financial Bid Presentation Sheets	**To provide at bid closing**
4.1.3 2)	Provide information in accordance with Appendix 1 of Annexe I – Price per Item Sheet	**To provide at bid closing**
4.1.4 2)	Provide information in accordance with Annexe J – Pricing Data Sheets	**To provide within 2 working days after written request to this effect**
Proof of Insurance		
4.1.4 4)	Provide Letter or proof of Insurance in accordance with article 6.13 of Part 6	**To provide within 2 working days after written request to this effect**
4.1.5 1)	Provide Insurance Requirements in accordance with article 7.11, Part 7;	**To provide within 5 calendar days after Contract award**

Proof of Welding Certification		
4.1.4 1)	Provide proof of welding certification, in accordance with clause 6.7 of Part 6;	**To provide within 2 working days after written request to this effect**
Management documentation		
4.1.4 3)	Provide Sub-contract and Sub-contractor List , in accordance with clause 7.15 of Part 7	**To provide within 2 working days after written request to this effect**
4.1.5 2)	Provide Work Schedule and Reports in accordance with article 7.16, Part 7;	**To provide within 5 calendar days after Contract award**
4.1.5 3)	Provide Inspections and tests plan in accordance with article 7.28, Part 7	**To provide within 5 calendar days after Contract award**

Technical Bid (this annex is part of the Technical Bid)		
4.1.3 4)	Provide Technical Bid in accordance with Annex K – Mandatory Technical Evaluation Criteria Presentation Sheets	
	Minimal performance criteria of the submitted equivalent products Section to complete by Bidders wishing to submit equivalent products to those indicated in Annex A.	
4.1.3 4) a.	**Equivalence Criteria for "MarineCoat" paint, for inside potable water tank coating – Item 7 of the Technical Statement of Requirement**	**To provide at bid closing**
	1. The paint must be NSF 61 certified. Provide documentation showing that the submitted paint is NSF 61 certified.	
	2. The paint must be 100% polymer. Provide documentation showing that the submitted paint is 100% polymer.	
	3. Demonstrate that the paint is being used inside potable water tank for over 5 years. Provide proof and references (project, client, year of application) showing that the submitted paint is being use inside potable water tank for at least 5 years.	
4.1.3 4) b.	**Equivalence Criteria for "MarineCoat" paint, for an application on exposed ship deck. Item 11 of the Technical Statement of Requirement**	**To provide at bid closing**
	1. The paint must be NSF 61 certified. Provide documentation showing that the submitted paint is NSF 61 certified.	
	2. The paint must be 100% polymer. Provide documentation showing that the submitted paint is 100% polymer.	
	3. Demonstrate that the paint is being used on expose ship deck for over 3 years. Provide proof and references (project, client, year of application) showing that the submitted paint is being use exposed ship deck for at least 3 years.	

4.1.3 4) c.	Equivalence Criteria for the "PANZ" ceiling tiles with insulation and acoustic backer. Item 14 of the Technical Statement of Requirement	To provide at bid closing
	Dimension of ceiling tiles: Demonstrate that the submitted tiles measures 2 feet by 2 feet.	
	Material of ceiling tiles: Demonstrate that the ceiling tiles are made of white perforated aluminium	
	Acoustic baking of ceiling tiles: Demonstrate that the ceiling are fitted with an acoustic backer insuring a CAS of 0.60 or higher	
	Fire proofing of ceiling tiles: Demonstrate that the ceiling tiles are ASTM E84 Class 'A' for surface-burning resistance	
	Insulation of ceiling tiles: Demonstrate that the ceiling tiles are fitted with a 1 inch thick insulation panel glued to the acoustic baker with a 'Marine' class and approved by Transport Canada.	

Seasonal Vessel Repairs
Sorel 2017-2018

CCGS LEIM (L 023)
CCGS ÎLE SAINT-OURS (I 002)
CCGS COAST GUARD 03 (C 035)

Specification no.: F3065-17IN423
Date: 2017-11-15

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

1.1. IDENTIFICATION

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

1.2. REFERENCES

2. GENERAL NOTES

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	Lockout/tagout
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	Electrical Standards of Transport Canada Marine Safety
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

Legislation and regulations:

S.C. 2001, c. 26	*Canada Shipping Act* and applicable regulations
R.S.C. (1985), ch. L-2	*Canada Labour Code*
SOR/2003-289	*Federal Halocarbon Regulations*

2.1. OCCUPATIONAL HEALTH AND SAFETY

The Contractor and all subcontractors shall 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, shall attend an orientation session on vessel safety on the first day of work 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 shall 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;
- Entering confined spaces;
- Degassing before entering into confined spaces and for hot work;
- Lockout and tagout;
- Pre-work safety assessments.

For the purpose of the lockout and tagout procedure, the Contractor shall 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 shall provide the necessary facilities for its employees and subcontractors as needed.

The Contractor shall follow the Sorel Base safety instructions.

2.2. ACCESS TO THE WORKPLACE

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

2.3. WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

The Contractor shall 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.

2.4. SMOKING IN THE WORKPLACE

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

2.5. CLEAN AND SAFE WORKPLACE

During the work period, the Contractor shall maintain the parts of the vessel used by its personnel to access places where it will 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 shall 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 shall clear 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 completed 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 shall, 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.

2.6. FIRE PROTECTION

The Contractor shall ensure that the insulation, removal and installation of fire detection and extinguishing systems, or of any component of such systems, are done by a qualified technician. When the Contractor deactivates a fire detection or extinguishing system during the contract, a qualified

technician shall then recertify that the system is fully functional. A signed and dated copy of the original certificate shall be delivered to the TA before the end of the contract.

The Contractor shall notify the TA and the IA and obtain written approval from the TA before disturbing, insulating, 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 someone 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 shall 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 this work.

2.7. 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.

2.8. CCG EMPLOYEES AND OTHERS ON THE VESSEL

CCG or DFO employees and other workers such as manufacturer's agents and/or TC 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 the resulting inspections/examinations do not interfere with the Contractor's work. The Contractor is not responsible for arranging or paying for the related inspections, unless otherwise indicated.

2.9. REGULATORY INSPECTIONS AND/OR CLASSIFICATION REVIEW

The Contractor shall make the calls and set the schedule for any regulatory inspections and/or classification visits by the responsible authority: TC, 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 demonstrating that they have taken place (i.e. signed and dated originals of certificates) shall be provided to the TA with copies to the IA.

The Contractor shall 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.

2.10. TEST RESULTS AND DATA COLLECTION

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

All tests, measurements, calibrations, and readings shall be recorded, signed by the person taking the measurements, dated, and submitted in electronic and printed report format to the TA 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 the recent calibration certificates in force for all instrumentation used in the test and trial plan, 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 paper 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 shall 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 at the end of the contract period.

2.11. TOOLS AND MATERIALS PROVIDED BY THE CONTRACTOR

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

The Contractor shall 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 provided by the equipment manufacturer or those found in guides and instructions.

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 shall provide information on the materials used–certificate of classification and the quality of various materials–to the TA before use.

The Contractor shall 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 shall also provide the garbage disposal certificates for any waste mentioned above. These certificates shall show that the disposal has been done in accordance with the federal, provincial, and municipal guidelines in force.

2.12. 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 shall 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 storage area having a controlled environment appropriate to the equipment according to the manufacturer’s instructions.

2.13. CONTRACTOR FAMILIARIZATION

All personnel working on the Sorel Canadian Coast Guard base shall 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 two hours.

2.14. 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, engineer’s office, wheelhouse, control room, any washrooms, the galley, dining halls, 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 in offices. Such notice will give the CG the time needed to evacuate its personnel and ensure safety in these rooms.

2.15. 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 shall comply with the criteria for the material provided by the Contractor as indicated above in the section Tools and Materials Provided by the Contractor.

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

2.16. 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.

2.17. LIST OF CONFINED SPACES

N/A

2.18. 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.

2.19. 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 federal, provincial and municipal governments' current

regulations 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 federal, provincial and municipal governments' current regulations.

2.20. 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.

2.21. WELDING CERTIFICATION

The Contractor and the welders involved in the work shall be certified by the Canadian Welding Bureau. The Contractor shall be certified for welding of steel and aluminum in Division 2 of CSA W47.1 and in Division 2 of CSA W47.2. Copies of certifications (including those of the welders) shall be submitted to the TA and the IA.

2.22. ELECTRICAL INSTALLATIONS

All electrical installations and repairs shall be done in accordance with the latest revisions of TP127E (Transport Canada Ship Safety Electrical Standards) and of standard 45 (Recommended Practice for Electrical Installations on Shipboard) of the IEEE. Standard TP127 takes precedence over the IEEE standard.

2.23. REFRIGERATION AND AIR CONDITIONING SYSTEMS

All work on refrigeration and air conditioning systems shall 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.

2.24. ELECTRICAL POWER SUPPLY

The CCG does not allow the Contractor to use the vessel’s electrical power for the duration of the contract.

2.25. 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 the vessels will be out of service.

2.26. TRADESPEOPLE’S COMPETENCE

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

All welders, engineers and electricians with less than five years of experience will be considered to be apprentices. They must be guided and supervised on site by a worker from the same trade who has more than five years of experience in said trade.

The welders, engineers and electricians shall have competed recognized training in their field.

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; it is intended only to ensure the tradespeople’s competency.

2.27. INSPECTION OF FIREFIGHTING 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 made unduly, and is only intended to ensure that qualified tradespersons are performing the necessary work.

2.28. *CANADA SHIPPING ACT* AND ITS REGULATIONS

All modifications and work performed shall be done so in compliance with the *Canada Shipping Act, 2001* and its regulations.

2.29. REGULATORY AUTHORITY - BUREAU VERITAS

All modifications and work performed shall be performed in compliance with the regulations of the Bureau Veritas classification society. This requirement applies only to the CCGS *Leim* in the case of this call for tenders.

3. SERVICES

Not applicable

4. LIST OF ACRONYMS

BV	Bureau Veritas
CA	Contracting authority (PWGSC)
CCG	Canadian Coast Guard
CLC	Canada Labour Code
CPM	Material provided by the contractor
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	Material safety data sheet
OHS	Occupational Safety and Health
OL	Overall Length
PWGSC	Public Works and Government Services Canada
SAC	Sound attenuation coefficient
SSMS	Safety and Security Management System
SWL	Safe working load
TA	Technical Authority – Owner's Representative (CCG)
TBS	Treasury Board of Canada Secretariat
TC	Transport Canada Marine Safety
TSR	Technical Services Representative
WHMIS	Workplace Hazardous Materials Information System

4.0 C.C.G.S. LEIM (L 023)		
Maintenance Manager:	Email:	Office: Cell:

4.10. SAFETY AND SECURITY EQUIPMENT

4.10.1 PORTABLE FIRE EXTINGUISHER

4.10.1.1 – SCOPE

Inspect all fire extinguishers and renew the certification of all extinguishers whose certification date has expired.

4.10.1.2 – REFERENCES

- ISV22 – 30000RMM13 – Drawing of general layout
- CCGS *Leim* – portable fire extinguishers

4.10.1.3 – TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Perform the annual inspection of eighteen (18) portable fire extinguishers. Have a qualified supplier inspect and maintain the fire extinguishers with the Contractor assuming the expense and responsibility. Ensure that the inspection certificate is issued by a supplier authorized by Bureau Veritas.
- Remove the fire extinguishers in a sequence such that the number of fire extinguishers taken off the vessel is never more than a third of those (maximum 6) that are on board. The Chief Engineer will determine the order in which the fire extinguishers must leave the vessel in accordance with item 2.6.
- Once the maintenance has been completed, return all the fire extinguishers to the vessel and put them back in place according to the Chief Engineer's instructions.
- Note: Five (5) fire extinguishers shall be hydrostatically tested, specifically
  - no. 4 (stairwell engine room),
  - no. 8 (passageway between mess and C/E cabin),
  - no. 9 (passageway between lower rooms),
  - no. 10 (bridge),
  - no. 13 (dry lab).

  Note: No dry chemical extinguisher is eligible for six-year maintenance.

4.10.1.4 – ACCEPTANCE OF WORK

Inspection

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

Testing

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

Certification

- The Contractor shall 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 Vessel Maintenance Manager.

4.10.1.5 – DELIVERABLES

Drawings/reports

- The Contractor shall provide the Chief Engineer with two (2) paper copies of reports and checklists that explain in detail the work and necessary modifications no later than five (5) days after completion of the work awarding the contract The Contractor shall 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 provides certified labour 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 shall perform the following work:

- The vessel is equipped with a Techsol integrated fire detection system with a Notifier NFS2-640 fire alarm panel. The Notifier NFS-640 panel is connected to the integrated fire alarm system, which is part of the vessel's surveillance and alarm system.
- Schedule a visit from a Bureau Veritas classification society inspector prior to starting the work.
- Provide certified labour to conduct the annual inspection and certification of the fire detection system. Ensure that the inspection certificate is issued 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 – ACCEPTANCE OF WORK

Inspection

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

Certification

- The Contractor shall 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 Vessel Maintenance Manager.

4.10.2.5 – DELIVERABLES

Drawings/reports

- The Contractor shall 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 must also send an electronic copy of the report to the Vessel Maintenance Manager no later than five (5) days after completion of the work award of the contract.

4.10.3 ANNUAL INSPECTION OF FIXED FIREFIGHTING 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 shall communicate with the Chief Engineer before undertaking the work for this item. This work shall 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 shall perform the following work:

- Provide authorized labour to test and inspect the vessel's Novec 1230 system as part of the annual inspection and certification of this system. Ensure that the inspection certificate is issued by a supplier authorized by Bureau Veritas.
- Ensure that the Chief Engineer attends all tests.
- Aside from the following tests, perform all tests required by the BV inspector on site.
- In the estimate, provide the cost of testing the alarms (indicator lights, sirens, and bells) on all devices, testing the nitrogen-releasing cylinders, testing ventilation closure devices, and testing slack loops and cables.
- Clean the pipes and pneumatic actuators with air and ensure that they work properly. Ensure that pipes and nozzles are free from obstruction.
- Ensure that the alarm displays and sirens work properly. 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, reassemble and reactivate the systems.
- Be licensed to renew this system's certification 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 – ACCEPTANCE OF WORK

Inspection

- All work must be completed to the satisfaction of the Chief Engineer, the Vessel Maintenance Manager, and the BV's regulatory authority.

Testing

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

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.

4.10.3.5 – DELIVERABLES

Drawings/reports

- The Contractor shall 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 shall also send an electronic copy of the report to the Vessel Maintenance Manager no later than five (5) days after completion of the work award of the contract.

4.11. HULL AND STRUCTURE

4.11.1 - REPLACEMENT OF THE COATING ON THE LOWER STAIRS

4.11.1.1 - SCOPE

- Replace the coating on the stairs between the mess and the lower deck.

4.11.1.2 - REFERENCES

- 310.2 – Wet space linings
- *Leim* staircase photo

4.11.1.3 – TECHNICAL DESCRIPTION

Manufacturer of the floor covering: Johnsonite

The Contractor shall perform the following work:

- Remove the coating in place and clean the surfaces.
- Order Johnsonite Stringers and Risers brand material in blue (as shown in the photo) or an equivalent brand :
  - Slip Resistances according to the recommended standards of the Americans with Disabilities Act (ADA) for non-slip surfaces:
  - Fire Resistance according to ASTM E 648
- Cut and install the coating for the steps and risers.
- Number of steps and risers: 10 Dimension: 70 cm x 23 cm

4.11.1.4 - ACCEPTANCE OF WORK

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

4.11.1.5 – DELIVRABLES

- The Contractor shall provide the Chief Engineer with a paper copy of the installed product description. The Contractor shall also send an electronic copy of the product description to the Vessel Maintenance Manager no later than five (5) days after completion of the work award of the contract.

4.11.2 - REPAIR ON THE HANDRAIL AND THE GANGWAY CRADLE

4.11.2.1 SCOPE

- Repair the guardrail and gangway cradle located on the upper deck.

4.11.2.2 - REFERENCES

- Photo guardrails and cradle on the *Leim*

4.11.2.3 - TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Prepare the surfaces for repair by mechanically cleaning the solder joints to be repaired. There are five solder joints to be repaired.
- Prepare a piece of aluminum to repair the cradle so that the starboard aft side is identical to the port aft side. Part of the starboard side is torn off.
- Weld the cracked seams and the starboard aft side cradle using full penetration welding.
- Apply one coat of alkyd primer which will be compatible with the coating already used on the ship either intergard 198 and a layer of white acrylic polyurethane acrylic finish paint which will be compatible with the coating already used on the ship, i. e. interthane 990 after repairs.

4.11.2.4 - ACCEPTANCE OF WORK

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

4.11.2.5 - DELIVERABLES

- The Contractor shall provide the Chief Engineer with a paper copy of the description of the repairs. The Contractor shall also send an electronic copy of the description of the repairs to the Vessel Maintenance Manager no later than five (5) days after completion of the work award of the contract.

4.12. PROPULSION AND MANOEUVERING SYSTEMS

N/A

4.13. VESSEL'S ELECTRICAL POWER GENERATION

N/A

4.14. ELECTRICAL DISTRIBUTION

4.14.1 - ELECTRICAL INSULATION TEST

4.14.1.1 - SCOPE

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

4.14.1.2 REFERENCES

- List of electrical circuits on the *Leim*
- OneLine_electrical_distribution
- ISV22-61850RMM2 - 120VAC & 24VDC Distribution Plan

4.14.1.3 – TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Conduct insulation tests on all the vessel's AC electrical circuits and alternators and record the results in the document entitled "List of electrical circuits on the *Leim*".
- Perform all tests between phase and ground. For circuits containing more than one phase, test each phase independently.
- Use the appropriate voltage for each insulation test according to the circuit being tested, and register it in the document "List of electrical circuits of the *Leim*".
- The Contractor is responsible for any damage to the various circuits and equipment during insulation testing; in the case of a breakage, the Contractor shall assume the cost of repairs.
- For 120 VAC distribution circuits:
  - Disconnect all devices connected to the circuit to be tested (anything plugged into an outlet).
  - Close all breakers on the circuit (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.
- For the electric motors:
  - Open (OFF) the motor breaker.
  - Test all the phases independently downstream of the breaker (between the breaker and the motor).
  - 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 and the contractor must notify the TA.

- A report of meghometric readings will be required. The report must be provided 1 day after the reading takes place. Following the report provided, the GC will indicate which reading is to be corrected.

4.14.1.4 - ACCEPTANCE OF WORK

Inspection

- All work shall be completed to the satisfaction of the Chief Engineer, the Vessel Maintenance Manager, and the BV inspector.

4.14.1.5 - DELIVERABLES

Report

- The Contractor shall provide the Chief Engineer with two (2) paper copies of the original inspection report. The Contractor shall also send an electronic copy of the certificates to the Vessel Maintenance Manager no later than five (5) days after completion of the work award of the contract.
- The report shall be made using the document "List of electrical circuits on the *Leim*" completed electronically, 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.

4.14.2 - CALIBRATION OF THE MAIN CIRCUIT BREAKERS AND TIGHTENING THE TERMINALS OF THE MAIN DISTRIBUTION PANELS

4.14.2.1 – SCOPE

- Calibrate the main circuit breakers.
- Inspect and tighten all terminals found in the main distribution tables.

4.14.2.2 - REFERENCES

- OneLine_electrical_distribution

4.14.2.3 – TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Calibrate the main circuit breakers:
  - ABB SACE Tmax 60A X2
  - ABB SACE Tmax 100A X10
  - ABB SACE Tmax160A X2
  - ABB SACE Tmax 250A X3
  - ABB SACE Tmax Main Gen automatic
- Perform a visual inspection and tighten all terminals of the main distribution panels:
  - Distribution 460V Port side
  - Distribution 460V Starboard side
  - Port-side generator and harbour generator
  - Starboard-side generator
- The Contractor shall provide a report for the calibration of the circuit breakers
- The Contractor shall provide the TA, a report indicating any defect or anomaly for the main distribution panels.

4.14.2.4 – ACCEPTANCE OF WORK

Inspection

- All work shall be completed to the satisfaction of the Chief Engineer, the Vessel Maintenance Manager, and the BV inspector.

4.14.2.5 - DELIVERABLES

Report

- The Contractor shall provide the Chief Engineer with two paper copies of the circuit breaker calibration report. The Contractor shall also affix a label indicating the date of calibration.
- The Contractor shall provide the Chief Engineer with two paper copies of the report indicating any defect or anomaly detected in the main distribution panels
- The Contractor shall also send an electronic copy of all reports to the Vessel Maintenance Manager no later than five (5) days after completion of the work award of the contract.
-

4.15. AUXILIARY SYSTEMS

N/A

4.16. DOMESTIC SYSTEMS

4.16.1 CLEANING AND INSPECTION OF THE CENTRAL VENTILATION SYSTEM

4.16.1.1 – SCOPE

Conduct a thorough cleaning of the ventilation system.

4.16.1.2 – REFERENCES

LEIM-81500RMM16 - HVAC System Diagram
LEIM-81510RMM7 - HVAC Ducting Diagram

4.16.1.3 – TECHNICAL DESCRIPTION

The Contractor shall 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.
- Take the necessary measures to adequately protect furniture and equipment during the work.

4.16.1.4 – ACCEPTANCE OF WORK

Inspection

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

Certification

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

4.16.1.5 – DELIVERABLES

Drawings/reports

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. The paper and electronic copy of all such reports to the ship's maintainer no later than five (5) days after the completion of the work.

4.16.2 MAINTENANCE AND REPAIR OF CHILLER

4.16.2.1 - SCOPE

Repair, maintain and test the chiller.

4.16.2.2 - REFERENCE

Photo of *Leim* chiller

Photo of *Leim* chiller pumps

4.16.2.3 – TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Replace the chiller's two heat exchangers with new ones. Follow the manufacturer's recommendations for their installation.
  - Brand: Universal Marine Industries
  - Model: Ti HFX-6D / 3/8 in. sensor well
  - Serial number: 14783

- Clean the pressurized reservoir with water containing bleach. Follow the recommendations of the manufacturer for opening the tank, cleaning, flushing and closing the tank.
  - Brand: Pro-Source Composite
  - Model: PSC-48-14 / 48 gallons
  - Serial number: 01711003
- Replace the steel pipe with copper or brass piping from the outlet of the chiller pump and livecatch pump up to the flanges after the strainers. Add a bypass at the outlet of the two pumps with a valve ball brass. Install a sacrificial anode on each of the two strainer. Return the pressure gauges on the outlet of the pumps to the same location on the new piping (before the isolation valves of the pumps).
  - Dimension of the pipes: 1 ½ inch in brass
  - Materials in place: pumps, valves, and strainers are made of brass
  - Sacrificial anode: Diameter = ½ inch, length = 2 inches, made of zinc and mounted on a brass plug

4.16.2.4 - ACCEPTANCE OF WORK

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

Trials
The Contractor shall perform a functional demonstration of the chiller by starting it up. The Chief Engineer is required to attend the functional test.

Certification
The Contractor shall provide the Chief Engineer with two (2) paper copies of the reports describing the work performed. The Contractor shall also send an electronic copy of all reports of the description of work performed to the Vessel Maintenance Manager.

4.16.2.5 - DELIVERABLES

Drawings/reports
The Contractor shall also send an electronic copy of all reports of the description of work performed to the Vessel Maintenance Manager no later than five (5) days after the completion of the work.

4.16.3 ANNUAL INSPECTION OF HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION SYSTEMS

4.16.3.1 - SCOPE

Perform annual inspection of refrigeration systems.

4.16.3.2 - REFERENCE

2015-03-06 Inventory of Leim halocarbons

4.16.3.3 – TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Perform a full inspection of all heating, ventilation, air conditioning, and refrigeration system components. Address all breaks and failures as additional work on form 1379.
- Conduct a test to detect refrigerant leaks on all air conditioning and refrigeration system components.
  - Refrigerator/Freezer No. LAU8857 - Model RST-45C1E Dry Laboratory
  - Refrigerator/Freezer No. LAU8861 - Model RST-45C1E Dry Laboratory
  - Refrigerator No. LAU8858 Brand BlueAir - Model BASR-1 Kitchen
  - Freezer No. LAU8860 Brand KeepRite - Model KLP209LE Pantry
  - Residential refrigerator No. 8856 Brand True - Model T12 Entry
  - Chiller No. 8853 Brand Bitzer - Model 2c0320SH-4SU
  - Heat exchanger No. 8855 Brand - Fujistu ASU12RLF
  - Heat exchanger No. 8854 Brand - Fujistu ASU18RLF
- Check the operating parameters.
- Before work begins, the refrigeration technician shall present a valid refrigeration mechanic's certificate to AT or the Chief Engineer.
- The Contractor shall affix a label with its contact information to each piece of equipment, stating that the equipment has been inspected and tested.

4.16.3.4 - ACCEPTANCE OF WORK

Inspection

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

Certification

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

4.16.3.5 - DELIVERABLES

Drawings/reports

The Contractor shall 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 shall also send an electronic copy of the report to the Vessel Maintenance Manager no later than five (5) days after the completion of the work.

4.17. DECK EQUIPMENT / VESSEL SUPPORT SYSTEMS

4.17.1 CERTIFICATION OF THE BOARDING GANGWAY AND LIFTING DEVICES

4.17.1.1 – SCOPE

Certify the boarding gangway and lifting devices.

4.17.1.2 - REFERENCE

4.17.1.3 – TECHNICAL DESCRIPTION

The Contractor shall perform the certification of the boarding gangway

- Make a load test on the boarding gangway according to the requirements of regulatory authority.
- Install a plate with the SWL on the boarding gangway.
- Issue a certificate for the load test of the boarding gangway.

The Contractor shall perform the annual certification of lifting devices

- Proceed with the annual certification of lifting devices according to the requirements of regulatory authority:
  - The gantry (A frame)
  - The three pulleys of the gantry (2 Trawlblocks and 1 Trioblock)
  - The articulated crane

4.17.1.4 – ACCEPTANCE OF WORK

Inspection

All work shall be completed to the satisfaction of the Chief Engineer, the Vessel Maintenance Manager and the BV inspector.

Certification

The Contractor shall provide the Chief Engineer with two (2) paper copies of the load test and annual inspections (T1) certificates along with the original. The Contractor shall also send an electronic copy of load test and annual inspections to the Vessel Maintenance Manager.

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:

5.10. SAFETY AND SECURITY EQUIPMENT

5.10.1 CERTIFICATION OF FIRE EXTINGUISHERS

5.10.1.1 – SCOPE

- The Contractor shall inspect all fire extinguishers and renew the certification of all extinguishers whose certification date has expired.

5.10.1.2 – REFERENCES

- CCGS *Île Saint-Ours* – Portable fire extinguishers

5.10.1.3 – TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Perform an annual inspection of portable fire extinguishers. Ensure that fire extinguisher inspection and maintenance is performed by a qualified representative with the Contractor assuming the expense and responsibility.
- Remove the fire extinguishers in a sequence such that the number of fire extinguishers taken off the vessel is never more than a third (maximum 5) of those that are on board.
- Once the maintenance has been completed, return all the fire extinguishers to the vessel and put them back in place according to the Chief Engineer's instructions.

5.10.1.4 DELIVERABLES

Drawings/reports

- The Contractor shall provide the Chief Engineer with two (2) paper copies of reports and checklists that explain in detail the work and necessary modifications. The Contractor shall also send an electronic copy of all reports to the Vessel Maintenance Manager no later than five (5) days after the completion of the work.

5.10.2 ANNUAL INSPECTION OF FIXED FIREFIGHTING SYSTEM

5.10.2.1 SCOPE

Perform maintenance and certification of the fixed fire suppression system.

5.10.2.2 TECHNICAL DESCRIPTION

The fixed fire suppression system includes two 75-lb. CO_2 cylinders for the engine room and one 100-lb. cylinder of CO_2 for the forehold.

The Contractor shall perform the following work:

Communicate with the Chief Engineer before undertaking the work for this item. Perform this work in conjunction with the portable fire extinguisher maintenance without reducing the firefighting capacity aboard the vessel.

TC shall perform maintenance and certification of the fixed fire suppression system.

- Verify proper operation of all remote CO_2 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.
- Visually check all distribution lines and flexible hoses and clear them with compressed air.
- Check the leak detector in the CO_2 cylinder compartment and the audible and visual alarm located behind the stairs leading down to the engine room. To do this, the Contractor shall remove the stairs and a bolted 3 ft. x 5 ft. wall.
- Parts found to be defective shall be replaced, and the costs adjusted on SPAC form 1379.

5.10.2.3 ACCEPTANCE OF WORK

Inspection

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

Testing

- The Chief Engineer is required to 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 shall also send an electronic copy of certificates to the Vessel Maintenance Manager.

5.10.2.4 DELIVERABLES

Drawings/reports

- The Contractor shall 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 shall also send an electronic copy of the report to the Vessel Maintenance Manager no later than five (5) days after the completion of the work.

5.11 HULL AND RELATED STRUCTURE

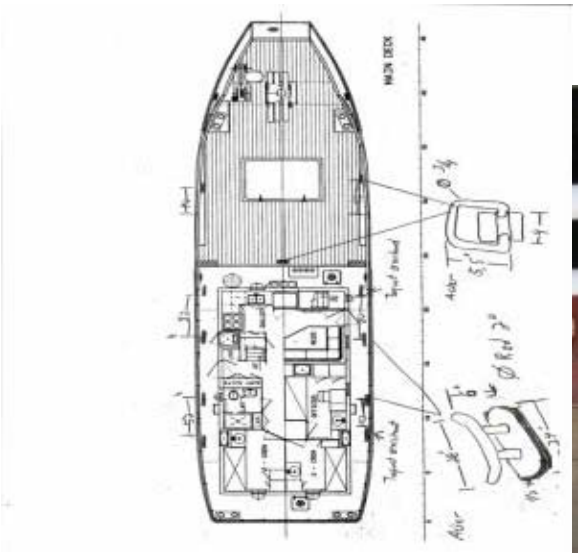
5.11.1 INSTALLATION ANCHORAGES ON FORECASTLE DECK

5.11.1.1 – SCOPE

Provide and install three (3) anchorages of the same type or equivalent to those already in place, in order to secure the cargo on the forecastle deck.

5.11.1.2 – REFERENCES

- Photos



- DWG # 42-83-800

5.11.1.3 – TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Provide and weld three (3) anchorages on the forecastle deck.
- Have welds carried out by a qualified welder and according to the CSA W59 standard.
- Apply one coat of primer to all affected surfaces and tie-downs.
- Keep a fire extinguisher near the work area for the duration of the welding work.

5.11.1.4 ACCEPTANCE OF WORK

Inspection

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

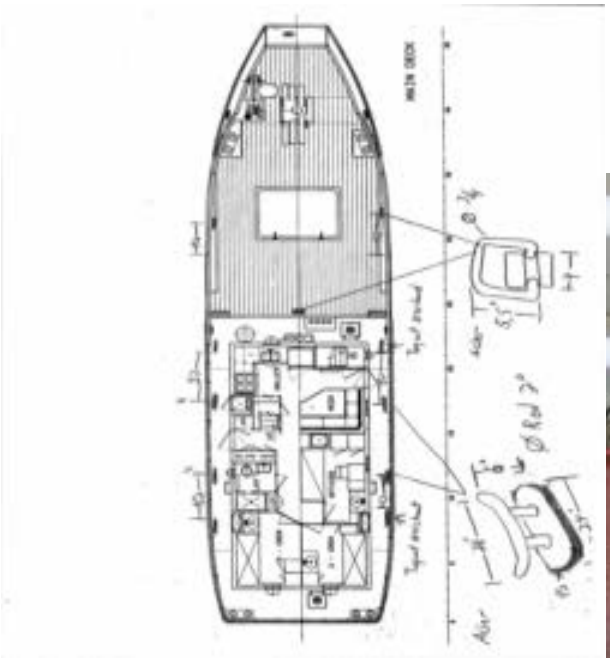
5.11.2 INSTALLATION OF FOUR (4) MOORING CLEATS ON THE MAIN DECK

5.11.2.1 SCOPE

Fabricate and weld four mooring cleats on the deck at the accommodation level.

5.11.2.2 REFERENCES

- Photos



- DWG # 42-83-800

5.11.2.3 TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Manufacture four (4) new steel cleats and weld them to the main deck at the accommodation level on the port and starboard sides at the locations indicated by the chief engineer.
- Manufacture the four (4) cleats to twenty-eight inches (28 in.) in length, six (6) inches in height, with a full rod of two (2) inches. Attach them to a base twenty-four inches long, six inches wide, and one-half inch thick.
- Prepare the surface on the deck and weld the four (4) new cleats.
- Have welds carried out by a qualified welder in accordance with the CSA W59 standard.
- Keep a fire extinguisher near the work area for the duration of the welding work.
- Remove and replace the insulation in the machinery room vis-à-vis the four (4) mooring cleats.

5.11.2.4 ACCEPTANCE OF WORK

Inspection

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

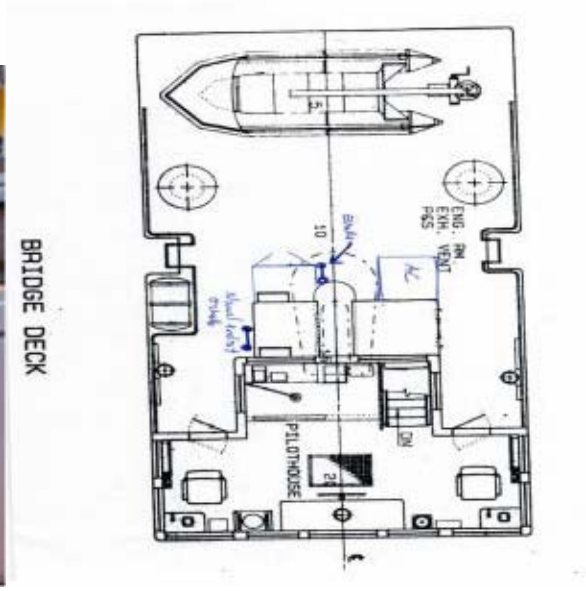
5.11.3 MOVE LADDER ON BRIDGE

5.11.3.1 SCOPE

Moving off the ladder to access the top of the bridge.

5.11.3.2 REFERENCES

- Photos



5.11.3.3 TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Remove the ladder from its current location and attach it in the indicated new location.

- Cut the anchorages of the ladder to the wall.
- Prepare the surfaces on the wall and weld the ladder in four places.
- Have welds carried out by a qualified welder and according to the CSA W59 standard.
- For the duration of the welding work, a fire extinguisher must be kept near the work area.

5.11.3.4 ACCEPTANCE OF WORK

Inspection

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

5.11.4 PLUG THE HOLES ON THE EXHAUST SYSTEM OUTLETS

5.11.4.1 SCOPE

Plug the four (4) holes on the exhaust system outlets.

5.11.4.2 REFERENCES

- Photos

5.11.4.3 TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Remove the four (4) nipples with female plugs and replace them with four (4) male plugs, ¾" diameter, black steel.
- Re-thread the fillets before screwing them in place.
- Perform this work when the ship is clear of ice so that the trim of the vessel can be adjusted.

5.11.1.4 ACCEPTANCE OF WORK

Inspection

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

5.11.5 REPLACEMENT OF SUSPENDED CEILINGS

5.11.5.1 SCOPE

- Replace the suspended ceilings in the accommodations on the main deck, the cabins for the Commanding officer, Chief Engineer and sailors, the corridor, the dining room and on the bridge, and dispose of them.

5.11.5.2 REFERENCES

- Photo


5.11.5.3 TECHNICAL DESCRIPTION

- The Contractor shall remove the existing suspended ceilings on the main deck, the cabins for the Commanding officer, Chief Engineer and sailors, the corridor, the dining room and on the bridge and take the necessary steps to dispose of them ecologically in accordance with applicable federal, provincial and municipal regulations.
- The contractor must protect walls as well as all other accessories such as chairs, tables, offices, beds, etc.
- The Contractor shall replace all the tile suspension and dispose of all scrap
- The surface of the ceilings to replace on the main deck, in the cabins for the Commanding officer, Chief Engineer and sailors, the corridor, the dining room and on the bridge is 700 sq. ft.
- The Contractor shall be responsible for disconnecting and reconnecting the lighting, fire detectors, etc. The Contractor shall provide the service of a certified electrician to perform this work.
- The Contractor shall provide and install a USG Panz metal panel ceiling system or equivalent, meeting the following equivalent criteria:

  a) 2 ft. by 2 ft. white perforated aluminum panels

  b) Equipped with an acoustic diaphragm ensuring an SAC of 0.60 or higher

  c) Class A according to the ASTM standard E84 for surface combustion characteristics

  d) fitted with a 1-inch thick insulation panel affixed to the acoustic membrane, marine class, and approved by TC

Before closing the ceilings of the main deck, the cabins of the Commanding Officer, Chief Engineer and sailors, and the bridge, the Contractor shall repair and replace the insulation of a surface measuring 300 sq. ft. measured.

- The Contractor shall make the necessary provisions for disposing of the old removed insulation in an environmentally sound manner ecologically in accordance with applicable federal, provincial and municipal regulations.
- The Contractor shall replace it with the same type and thickness of insulation and a vapour barrier.
- The contractor shall verify that the deckhead is in good condition and free of dust, humidity, or other issues.

5.11.5.4 ACCEPTANCE OF WORK

Inspection

- All work shall be approved by the TA.
- The work shall be performed to the satisfaction of the Canadian Coast Guard representative.
- An inspection shall be scheduled at each step of the process. The Contractor shall notify the Coast Guard representative in sufficient time to allow him or her to reach the site.

Trials

- N/A

Deliverable documents

- One week before the end of the contract, the Contractor shall submit a list to the TA with specifications of any new material used to complete the work described in this section.

5.11.6 REPLACEMENT OF BRIDGE DOORS

5.11.6.1 – SCOPE

- Replace the two (2) doors and corresponding door frames on the bridge.

5.11.6.2 REFERENCES

- Photo 

5.11.6.3 TECHNICAL DESCRIPTION

- The Contractor shall provide and replace two (2) doors and corresponding door frames on the bridge.
- The Contractor shall be responsible for taking the measurements and ordering the two (2) doors and frames with the same dimensions and of the same type of doors, as described:
- Each door is supplied with two quick-release handles, a duck-bill handle, and a lock with two (2) keys.
- The doors are double-walled with thermal insulation inside.
- Doors are equipped with tempered windows in the upper portion according to CAN/CGSB-12.1-M90,
- Doors are manufactured from marine aluminum (5086-H32 ou 5086-H116).
- Remove the old doors, complete with their frames and clean the edges and the entire surface under each frame and return them to GC.
- Refurbish the overall surface of each damaged frame.
- Replace damaged bolts with new bolts.

5.11.6.4 ACCEPTANCE OF WORK

Inspection

- All work shall be approved by the TA and the TC.
- The work shall be performed to the satisfaction of the Canadian Coast Guard representative.
- An inspection shall be scheduled at each step of the process. The Contractor shall notify the Coast Guard representative in sufficient time to allow him or her to reach the site.

Trials

- Perform a sealing test at the end of the work with a fire hose set at a pressure of 50 psi for a period of fifteen (15) minutes.

Deliverable documents

- The Contractor shall submit to the TA two paper copies and one electronic copy of door certificates, tests and reports no later than five (5) days after completing the work contracted. All dimensional measurements and the installation procedure shall be recorded in the report.

5.11.7 REPLACEMENT OF FLOOR TILES

5.11.7.1 SCOPE

- Replace floor coverings on the bridge, galley, corridor, and in three (3) cabins.

5.11.7.2 REFERENCES

- N/A

5.11.7.3 TECHNICAL DESCRIPTION

- The Contractor shall provide and replace the floor coverings on the bridge, galley, corridor, and in three (3) cabins.
- Before removing the old floor covering, the contractor must submit a report to the TA as soon as possible describing the type of covering that is in place.
- The Contractor shall remove the old floor coverings and the old black glue on the floors of the bridge, galley, corridor, and in three (3) cabins.
- The Contractor shall repair the locations where the cement is damaged.
- The Contractor shall apply a layer of glue compatible with the under-floor and apply new solid vinyl tiles.
- The Contractor shall be responsible for taking the measurements and ordering the new tiles and wall skirtings. The surface to be covered is approximately 600 sq. ft.
- The contractor must order Johnsonite, model Cortina Grande tile or equivalent that must:
  - Slip resistance according to the Americans with Disabilities Act (ADA) recommended standards for slip-resistant surfaces.
  - Fire resistance according to ASTM E 648
- Square tile with dimensions 406 mm x 406 mm x 3.2 mm.
- The selected colour can be blueberry colour, or equivalent.
- The work shall be scheduled for after the replacement of the ceilings as indicated in point 5.11.5.

5.11.7.4 ACCEPTANCE OF WORK

Inspection

- All work shall be approved by the TA.
- The work shall be performed to the satisfaction of the Canadian Coast Guard representative and the Chief Engineer.
- Schedule an inspection at each step of the process. The Contractor shall notify the Coast Guard representative in sufficient time to allow him or her to reach the site.

Trials **N/A**

Deliverable documents

- The Contractor shall submit to the TA two paper copies and one electronic copy of the tile certificate no later than five (5) days after the contract is awarded. The entire installation procedure shall be described in the report.

5.12. PROPULSION AND MANOEUVRING SYSTEMS

5.12.1 ANNUAL MAINTENANCE MAIN ENGINES, PORT AND STARBOARD TRANSMISSIONS

5.12.1.1 SCOPE

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

5.12.1.2 REFERENCES

- Detroit Diesel Series 92 manual
- Detroit Diesel Series 92 maintenance recommendations
- Pay & Brinck A/S, PB130 transmission manual
- Pay & Brinck A/S transmission maintenance recommendations

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 & Brinck A/S, PB130
Port: Model: 1101
Starboard: Model: 1102

Engine hours: Port: 1,157.2 hrs, Starboard: 1,137.4 hrs

The Contractor shall 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.
- Ensure that the Contractor's engineer is an authorized representative of the manufacturer of the Detroit Diesel Series 92 engines and their Pay and Brinck gearboxes to perform the annual maintenance.
- Inspect valve clearances and adjust if necessary.
- Verify the injectors.
- Change the oil and filters.
- Replace the air filters.
- Change the primary and secondary fuel filters.
- Drain the coolant liquid, perform a cleaning cycle, and replace with new coolant.
- Clean the coolers (4) and verify the anodes.
- Inspect the pump impellers (4).
- Verify the temperature regulators.

- Verify the plugs in the expansion tanks.
- Verify the cooling water high temperature sensor.
- Check the operation of the engine heater and its thermostat on the port and starboard motor.
- Seal antifreeze on the engine heater.
- Verify the low oil pressure sensor.

Transmissions:

- Perform an oil change and clean the strainers of the two (2) transmissions.
- Clean the exchangers and replace the anodes of the two (2) transmissions.
- Change the seal on the rear of the port transmission (major leak on the rear of the transmission).
- After changing the seal, it will be necessary to check the pressure of the port transmission that is lower than 40-50 psi than the other transmission. The Contractor will provide the Chief Engineer with a report detailing the inspection, modifications and repairs to be made if required.
- Check the clutch time of the two (2) transmissions.
- If other mechanical parts need to be replaced, the cost of parts shall be adjusted on form 1379.
- All parts used must be OEM, and the exchange system is accepted.
- Perform the engine adjustments and start-up and demonstrate that power output and overall operation are satisfactory and in accordance with the manufacturer's specifications.
- When the vessel is cleared of ice, have the technician perform an operational engine trial for one hour and the engine shall be set to 100 % of the load or as recommended by the chief engineer.
- A written report will be required before the completion of work demonstrating indicating the different engine parameter values (RPM, OIL PRESSURE, WATER TEMP., EXH. TEMP., OIL TEMP., etc.) during final trials.
- Check all safeguards checked, and the values recorded in the report.
- The Marine Safety expert and CCG representatives will be required to attend the start-up and the final trial to verify the engine safeguards, and they shall be notified 48 hours in advance in order to allow them to visit the site.

5.12.1.4 – ACCEPTANCE OF WORK

- 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 no later than five (5) days after the completion of the work.
  - The following information shall 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

5.12.2 PROPELLER SHAFT TACHOMETERS

5.12.2.1 SCOPE

- Replace the two (2) speed tachometers of the two (2) port and starboard propeller shafts as well as the dial displays on the bridge in one direction of rotation.

5.12.2.2 REFERENCES

Photos


5.12.2.3 TECHNICAL DESCIPTION

The Contractor shall perform the following work:

- Isolate the starters of the two propulsion diesel engines for the duration of the work.
- Remove and disassemble the two old tachometers: the six (6) indicators on the bridge, wiring between the bridge and the engine room, and the two tachometers fixed on the two (2) propeller shafts.
- Pass new fire resistant shielded cables between the engine room and the bridge. This represents 160 ft. of wiring; 80 ft. of wiring on the port side and 80 ft. on the starboard side.
- Install two (2) magnetic speed sensors on the two (2) propeller shafts with new brackets which shall be provided by the Contractor.
- Install the six (6) marine-type indicators or equivalent, 96 mm (LED 24 VDC dimmable included) for the bridge; two (2) indicators on the port-side console, two (2) indicators on the central console, and two (2) indicators on the starboard-side console. Provide the support brackets.
- We will conduct the trials when the vessel is free of ice.

5.12.2.4 – ACCEPTANCE OF WORK

Inspection

- All work shall be completed to the satisfaction of the Chief Engineer and the Transport Canada inspector.

Trials

- Conduct 15-minute trials to demonstrate proper operation of the two (2) tachometers in the presence of the Chief Engineer and the Transport Canada representative.

- The Contractor shall be responsible to coordinate the Transport Canada representative within the required time in order for the latter to attend the tests.

Certification

- Before the work is completed, the Contractor shall 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 the certificates to the Vessel Maintenance Manager.

5.12.2.5 – DELIVERABLES

Drawings/reports

- The Contractor shall submit two (2) copies of a full written report on the work performed to the CCG representative, indicating all the parts that were replaced. An electronic copy of the report shall be sent to the CCG representative no later than five (5) days after the completion of the work**.**
- The following information is to be included:
  - Date of work and date of report
  - Technician name
  - Description of work performed
  - A list of materials and all the installed parts
  - Drawings & doc/Drawings & documentation (block diagram block only)

5.13. VESSEL'S ELECTRICAL POWER GENERATION

5.13.1 ANNUAL MAINTENANCE OF PORT AND STARBOARD DIESEL ENGINE GENERATORS

5.13.1.1 SCOPE

Perform the annual maintenance of port and starboard diesel engine generators.

5.13.1.2 TECHNICAL DESCRIPTION

Engine type: Perkins 4.236, 4 cylinders

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

Engine Hours:

- Port side: 4,432.4 hrs
- Starboard side: 3,037.1 hrs

The Contractor shall perform the following work:

- Provide the services of an engineer for the annual maintenance of the Perkins diesel engines.
- Ensure that the Contractor’s engineer is an authorized representative of the engine manufacturer, Perkins Diesel.
- Ensure that the engineer is an authorized representative of the engine's manufacturer.
- Inspect valve clearances and adjustment if necessary.
- Verify the injectors.
- Change the oil and filters.
- Replace the air filters.
- Change the primary and secondary fuel filters.
- Drain the coolant liquid, perform a cleaning cycle, and replace with new coolant.
- Clean the coolers (4) and verify the anodes.
- Perform a hydrostatic test on the oil cooler Diesel Generator No. 1.
- Inspect the pump impellers (4).
- Verify the temperature regulators.
- Verify the plugs in the expansion tank.
- Verify the cooling water high temperature sensor.
- Verify the low oil pressure sensor.
- Seal leakage between the thermostat and the cylinder head on the engine.
- Seal a breech antifreeze leak on the starboard motor.
- Seal oil leak from the water Jabsco Sea pump and the gear cover on the motor rim.
- Repair the air intake vents because they no longer work.
- If other mechanical parts need to be replaced, adjust the cost of parts using form 1379.
- Use all OEM parts; the exchange system is accepted.
- Perform the engine adjustments and start-up and demonstrate that power output and overall operation are satisfactory and in accordance with the manufacturer's specifications.
- When the vessel is cleared of ice, have the technician perform an operational engine trial for one hour and the engine shall be set to 100 % of the load or as recommended by the chief engineer.

- A written report will be required before the completion of work indicating the different engine parameter values (RPM, OIL PRESSURE, WATER TEMP., EXH. TEMP., OIL TEMP., etc.) during final trials.
- Check all safeguards and record the values in the report.
- The Marine Safety expert and CCG representatives will be required to attend the start-up and the final trial to verify the engine safeguards, and they must be notified 48 hours in advance in order to allow them to visit the site.

5.13.1.3 ACCEPTANCE OF WORK

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

5.13.1.4 DELIVERABLES

- The technician shall submit a written report in both hard and PDF copy no later than five (5) days after the completion of the work.
- The following information is to be included:
  - Date of work and date of report
  - Technician name
  - Diagnostic of identified problems
  - Description of work performed
  - A list of materials and all parts replaced or installed

5.14. ELECTRICAL 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 *Saint-Ours*

5.14.1.3 – TECHNICAL DESCRIPTION

The Contractor shall 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 *Saint-Ours*" document.
- Perform all tests between phase and ground. For circuits containing more than one phase, test each phase 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 *Saint-Ours*" document.
- For the distribution circuits:
  - Disconnect all devices connected to the circuit to be tested (anything plugged into an outlet).
  - Close all breakers on the circuit (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).

- A report of meghometric readings will be required. The report must be provided 1 day after the reading takes place. Following the report provided, the GC will indicate which reading is to be corrected.

5.14.1.4 ACCEPTANCE OF WORK

Inspection

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

5.14.1.5 DELIVRABLES

Report

- The Contractor shall provide the Chief Engineer with two (2) paper copies of the original inspection report. The Contractor shall also send an electronic copy of certificates to the Vessel Maintenance Manager no later than five (5) days after the completion of the work.
- The report shall be made with the document "List of electrical circuits on the *Saint-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.

5.14.2 REPLACE LIGHTING FIXTURES

5.14.2.1 SCOPE

5.14.2.1.1 Replace neon lighting tube fixtures with LED tubes of at least 5000k.

5.14.2.2 REFERENCES

5.14.2.2.1 42-83-600 Electrical Diagram

5.14.2.2.2 TP127E – Ship Electrical Standards

5.14.2.3 TECHNICAL DESCRIPTION

5.14.2.3.1 The Contractor shall remove the fixtures in the list below.

LIST OF FIXTURES TO BE REPLACED

- Bridge: 2 fixtures each 24 in. x 24 in.
- Galley and mess room: 2 fixtures each 24 in. x 24 in.
- Deckhand cabin: 1 fixture 24 in. x 24 in.
- Commanding Officer's cabin: 1 fixture 24 in. x 24 in.
- Commanding Officer's cabin: 1 fixture 24 in. x 24 in.

5.14.2.3.2 The Contractor must dispose of the ballasts in accordance with regulations.

5.14.2.3.3 The Contractor must supply LED lighting fixtures of at least 5000K.

5.14.2.3.4 The Contractor must install and connect all new LED fluorescent lighting fixtures.

5.14.2.3.5 The Contractor shall check the continuity of power supply circuits of the fixtures upon completion of each installation.

5.14.2.3.6 The Contractor shall ensure that each fixture installed functions properly.

5.14.2.4 ACCEPTANCE OF WORK

Inspection

5.14.2.4.1 All work must be approved by the TA and the MSO.

5.14.2.4.2 The work shall be performed to the satisfaction of the Canadian Coast Guard representative.

5.14.2.4.3 Installation of fixtures shall comply with TP127E Ships Electrical Standards.

Trials

5.14.2.4.4 Conduct an operational test upon completion of the work.

Deliverable documents

5.14.2.4.5 The Contractor shall submit to the TA two paper copies and one electronic copy of megohmmeter measurements no later than five (5) days after completing the work.

5.15. AUXILIARY SYSTEMS

N/A

5.16. DOMESTIC SYSTEMS

5.16.1 CLEANING AND INSPECTION OF THE CENTRAL VENTILATION SYSTEM, HEATING AND COOLING

5.16.1.1 SCOPE

- Perform the annual inspection of the air conditioning system.
- Complete cleaning of the central ventilation system.
- The ventilation system includes the following components: the central ventilation ducts for the dryer and the bathroom extraction; heat exchangers; diffusers; and external air intake.

Note: The technician(s) doing the work shall hold a valid refrigeration card, indicate its number on the report, and provide a copy of the card to the CCG representative. Conduct a thorough cleaning of the ventilation system.

5.16.1.2 REFERENCES

- *Île Saint-Ours* Ventilation 42-83-803

5.16.1.3 TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Perform a full inspection of all heating, ventilation, and air conditioning components. Address all breaks and failures as additional work on form 1379.
- Conduct a test to detect refrigerant leaks on all air conditioning system components with an electronic leak detector with a suitable minimum detection level.
- Check the operating parameters.
- Affix a label with the Contractor’s contact information to each piece of equipment, stating that the equipment has been inspected and tested.
- Conduct a thorough cleaning of the vessel's ventilation system using mechanical suction/pulsing/brushing (octopus) methods and a vacuum equipped with a HEPA filter.
- 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 – ACCEPTANCE OF WORK

Inspection and certification

- The work shall be completed to the complete satisfaction of the Coast Guard representative.

5.16.1.5 DELIVRABLES

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 no later than five (5) days after the completion of the work This report shall include photos of the various components of the ventilation system before and after cleaning.

5.17. DECK EQUIPMENT / VESSEL SUPPORT SYSTEMS

5.17.1 QUADRENNIAL (FOUR-YEAR) INSPECTION OF THE HIAB CRANE

5.17.1.1 SCOPE

Proceed with the quadrennial verification of the HIAB Crane, Type 180, SEA series Z3912

5.17.1.2 REFERENCES

- Hiab 180 Sea Crane
- 42-83-405 Deck crane
- 42-83-710 Hydraulic oil diagram

5.17.1.3 TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Switch off all hydraulic pumps, meaning primary and standby.
- Remove the crane from its seat taking care to plug all lines with screwed metal caps to prevent pollution and contamination.
- Offload the crane using a crane (holding a T-3 certificate), and transport it to a workshop in order to perform a full disassembly (approximate weight of the crane: 7,000 lb.)
- Ensure that sections are solidly attached before raising the crane to keep it from folding onto itself.
- Disassemble, clean, and perform a non-destructive test on all cylinders pins and sections, to the satisfaction of the Marine Safety inspector. Prove that the grease ways are clean and lubricate them before the pins are reattached. Provide an aspect ratio of the pins and sleeves.
- Plan to disassemble, clean, and perform a non-destructive crack detection test on all sections of the extension, to the satisfaction of the Inspector, taking care not to damage the hot zinc application. Mechanically clean the inside of the sections.
- Disassemble the vertical support so that the internal components (hydraulic hose) can be inspected by the Transport Canada inspector.

- Disassemble the hydraulic winch so that the motor, clutch brake and gears can be inspected by the Transport Canada inspector. Replace the oil (80W90 gear oil).
- Reassemble all the components using an anti-seizing compound on all pins, sleeves, screws, and nuts. Lubricate the sections during reassembly.
- Replace the 6-function HIAB 30 distributor for separate mounting. Ensure that the distributor is sealed, immune to corrosion and withstands sea water. Use a distributor that includes pressure limiters to protect the crane against overload, and suction valves to ensure that the actuators fill properly.
- Have the technician conduct an engine operation test in the spring for one hour to check for leaks and to adjust the flow control valve.
- At the end of the work, perform a lift test in the presence of a load analysis specialist who shall provide a T-2 Certificate duly signed on the same day and also to the satisfaction of the Transport Canada inspector. Deliver the following details in the crane certificate: first test, full extension, weight 2,000 kg; and the second test, retracted to 4.7 m., weight 3,570 kg.
- Provide and apply a layer of self-etching primer/two component epoxy finish on the new surface. Follow with a two component acrylic polyurethane finish that will be compatible with the Interthane 990 “Buff” finish already in place. Apply taking into account that the sections slide. Lubricate the sections during reassembly.
- For additional work such replacement of hoses and parts, obtain approval from the Coast Guard representative and process using Form 1379.
- Remove and reattach pulleys. Fill to the correct level with oil provided by the Contractor.
- Have welds carried out by a qualified welder and according to CSA standards.
- For the duration of the welding work, keep a fire extinguisher near the work area.

5.17.1.4 ACCEPTANCE OF WORK

- All work shall be completed to the satisfaction of the Chief Engineer and the Coast Guard representative.

5.17.1.5 DELIVERABLE

- The technician shall submit a written report in hard copy and electronic form no later than five (5) days after the completion of the work
- The following information shall be included:
  - Date of work and date of report
  - Description of work performed
  - A list of materials and all parts replaced or installed
  - T-2 Certificate for the crane.

5.18. COMMUNICATION AND NAVIGATION SYSTEMS

N/A

5.19. INTEGRATED CONTROL SYSTEMS

N/A

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

6.10. SAFETY AND SECURITY EQUIPMENT

6.10.1 PORTABLE FIRE EXTINGUISHERS

6.10.1.1 – SCOPE

Inspect all fire extinguishers and renew the certification of all extinguishers whose certification date has expired.

6.10.1.2 REFERENCE

- *C.G. 03* – Portable fire extinguishers

6.10.1.3 TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Perform an annual inspection of portable fire extinguishers. Have fire extinguisher inspection and maintenance performed by a qualified representative at the expense and under responsibility of the contractor according to NFPA10 or must recent.
- Once the maintenance has been completed, return all the fire extinguishers to the vessel and put them back in place according to the Chief Engineer's instructions.

6.10.1.4 – ACCEPTANCE OF WORK

Inspection

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

Testing

- Conduct fire extinguisher testing in compliance with Transport Canada regulations.

Certification

- The Contractor shall 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 all reports and certificates to the Vessel Maintenance Manager.

6.10.1.5 – DELIVERABLES

Drawings/reports

- The Contractor shall provide the Chief Engineer with two (2) paper copies of reports and checklists that explain in detail the work and necessary modifications. The Contractor shall also send an electronic copy of all reports to the Vessel Maintenance Manager no later than five (5) days after the completion of the work

6.10.2 FIRE DETECTION SYSTEM

6.10.2.1 – SCOPE

This specification is to ensure that the Contractor performs the annual inspection and certification of the fire detection system.

6.10.2.2 – TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- The vessel is equipped with a Fire-lite MS-9050UD fire panel.
- Schedule a visit from a TC inspector before starting the work.
- Provide certified labour 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.
- All breaks and failures shall be addressed as additional work on form 1379.

6.10.2.3 – ACCEPTANCE OF WORK

Inspection

- All work shall 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 shall also send an electronic copy of all reports and certificates to the Vessel Maintenance Manager.

6.10.2.4 DELIVERABLES

Drawings/reports

- The Contractor shall submit to the Chief Engineer a paper 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 all reports and certificates to the Vessel Maintenance Manager no later than five (5) days after the completion of the work

6.10.3 ANNUAL INSPECTION OF THE FIXED FIREFIGHTING 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 *CG-03*.

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

The fixed firefighting system is a Kidde 2 x 75 lb. system.

6.10.3.2 – TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Provide authorized labour to conduct the tests and inspections of the vessel's CO_2 system as part of the annual inspection and certification of this system. Ensure the Chief Engineer attends all tests.
- Aside from the following tests, perform all tests required by the TC inspector on site.
- In the estimate, provide the cost of testing the alarms (indicator lights and sirens) on all devices, testing ventilation closure devices, and testing slack loops and cables.
- Clean the pipes and pneumatic actuators with compressed air and ensure that they work properly. Pipes and nozzles shall be free from obstruction.
- Ensure that the alarm displays and sirens work properly. Weigh each cylinder and record the results. At the end of the refit, the Contractor shall provide the Chief Engineer with copies of all certificates.
- When the trials and inspections are completed, reassemble and reactivate the systems.

6.10.3.3 – ACCEPTANCE OF WORK

Inspection

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

Testing

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

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.

6.10.3.4 DELIVERABLES

Drawings/reports

- The Contractor shall submit to the Chief Engineer a paper 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 all reports and certificates to the Vessel Maintenance Manager no later than five (5) days after the completion of the work

6.11. HULL AND STRUCTURE

6.11.1 REPLACEMENT OF BRIDGE WINDOWS

6.11.1.1 SCOPE

- Supply and replace the port-side window on the front of the bridge.

6.11.1.2 REFERENCES

- Photos

6.11.1.3 – TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Supply and replace the port-side window on the front of the bridge.
- Take measurements and order a window of the same dimensions and of the same type of window is clear unheated glazing.
- Remove the old window and hand it over to the Coast Guard, and clean the edges and the entire surface of the port-side window.
- Verify the fastening edges for damage and refurbish if necessary.
- Replace damaged bolts with new bolts.
- Disconnect the old window and reconnect the new window

6.11.1.4 – ACCEPTANCE OF WORK

Inspection

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

Trials

- Perform a sealing test at the end of the work with a fire hose set at a pressure of 50 psi for a period of fifteen (15) minutes.

Deliverable documents

- The Contractor shall submit to the TA two paper copies and one electronic copy of window certificates, tests and reports no later than five (5) days after completing the work contracted. All dimensional measurements and the installation procedure shall be described in the report.

6.12. PROPULSION AND MANOEUVRING SYSTEMS

6.12.1 ANNUAL MAINTENANCE OF PORT AND STARBOARD PROPULSION DIESEL ENGINES, TRANSMISSION, V-DRIVE

6.12.1.1 – SCOPE

- Perform annual maintenance of port and starboard diesel propulsion engines.
- Perform annual maintenance of port and starboard transmissions.
- Perform annual maintenance of port and starboard V-drives.
- Provide labour recognized and certified by "Caterpillar" to perform the annual maintenance of diesel engines, transmissions and port and starboard V-drives.
- Ensure all work is performed according to the manufacturers' procedures and specifications.
- Contact the Coast Guard representative within the required time.

6.12.1.2 – REFERENCES

- Caterpillar *CG-03* manual
- Caterpillar engine maintenance recommendations
- Walter V-Drives
- Service Manual Capitol Gears, Inc.

6.12.1.3 – TECHNICAL DESCRIPTION

Diesel engines:

Brand	Caterpillar
Model:	3306B
Arrangement No.:	1W3870
Serial No.	84 Z 01145 and 84 Z 01252
OT Specification:	OT 4229

Transmissions:

Brand	Capitol Gear
Model:	HE 10200
Serial No.:	14529-1087 & 14519-0487
Ratio:	2.11:1

V-drive:

Brand	Walter V Drive
Model:	RV 61
Serial No.:	49211 & 49210
Ratio:	2.04:1

The Contractor shall perform the following work:

- Perform work according to the manufacturers' procedures and specifications.
- Contact the representatives of the Coast Guard within the required time.
- Inspect of valve clearances and adjust if necessary.
- Verify the injectors.
- Verify the turbochargers.
- Change the oil and filters.
- Replace the air filters.
- Change primary and secondary fuel filters.
- Drain the coolant, perform a cleaning cycle and replace coolant liquid.
- Clean the coolers (4) and verify the anodes.
- Inspect the pump impellers (4).
- Clean the crankcase vents.
- Check the pressure gauge to the starboard engine oil pressure located in the bridge, scale 0-80 psi (0-500 kPa), and change as required.
- Verify the temperature regulators.
- Verify the plugs in the expansion tanks.
- Verify the cooling water high temperature sensor.
- Verify the low oil pressure sensor.

Transmissions:

- Perform an oil change and clean the strainers of the two (2) transmissions.
- Clean the exchangers and replace the anodes of the two (2) transmissions.

V-drive

- Perform an oil change and change the filters of the two (2) V-Drives.
- Clean the exchangers and replace the anodes of the two (2) V-Drives.
- Supply and change the port inboard shaft seal, Seal No. 450301, National brand, 2 in. diameter or equivalent.
- If other mechanical parts need to be replaced, adjust the cost of parts using form 1379.
- Use all OEM parts; the exchange system is accepted.
- Perform engine adjustments and start-up and demonstrate that power output and overall operation are satisfactory and in accordance with the manufacturer's specifications.
- Perform an operational engine trial for one hour when the vessel is cleared of ice and put the engine shall be set to 100 % of the load or as recommended by the chief engineer.
- Submit a written report indicating the different engine parameter values (RPM, OIL PRESSURE, WATER TEMP., EXH. TEMP., OIL TEMP., etc.) during final trials.
- Check all safeguards and record the values in the report.
- The Marine Safety expert and CCG representatives will be required to attend the start-up and the final trial to verify the engine protections, and they must be notified 48 hours in advance in order to allow them to visit the site.

6.12.1.4 ACCEPTANCE OF WORK

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

6.12.1.5 DELIVERABLES

- The Contractor shall submit to the CCG representative two (2) copies of a full written report and in PDF format of the work performed no later than five (5) days after completion of the work award of the contract including all the parts that were replaced.
- The following information is to be included:
  - Date of work and date of report
  - Technician name
  - Description of work performed
  - A list of materials and all parts replaced or installed

6.12.2 HYDRAULIC STEERING GEAR PUMP

6.12.2.1 SCOPE

- Disassemble the steering gear hydraulic pump to change the seal.

6.12.2.2 REFERENCES

Hydraulic pump:

- Brand: Denison
- Model SDV10-1P3P-1C

6.12.2.2 TECHNICAL DESCRIPTION

The Contractor shall perform the following work:

- Electrically isolate the pump motor for the duration of the work.
- Disconnect the pump and its motor. Take the necessary measures to protect the pipes and electrical installations during the overhaul.
- Remove the coupling between the motor and the pump, check it for wear, and replace it.
- Disassemble the pump to change the seal on the shaft.
- Reassemble the pump with new parts, install it in its place, and reconnect it to the piping with new fittings. Align the pump and its motor. Perform 15-minute tests to demonstrate that the pump works properly once it is back in place. The tests shall show that the pump generates the required pressure.

6.12.2.3 ACCEPTANCE OF WORK

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 shall be sent to the CCG representative.

6.13. VESSEL'S ELECTRICAL POWER GENERATION

6.13.1 ANNUAL MAINTENANCE PORT AND STARBOARD DIESEL GENERATOR ENGINES

6.13.1.1 SCOPE

- Perform annual maintenance of port and starboard diesel generator engines.
- Perform annual maintenance of the alternators.
- The Contractor must provide manpower recognized and certified by “Caterpillar” to perform the annual maintenance of port and starboard diesel generator engines.
- All work shall be performed according to the manufacturers' procedures and specifications.
- The Contractor is responsible for contacting the Coast Guard representative within the required time.

6.13.1.2 REFERENCES

- Caterpillar *CG 03* manual
- Caterpillar engine maintenance recommendations
- Walter V-Drives
- Service Manual Capitol Gears, Inc.

6.13.1.3 – TECHNICAL DESCRIPTION

Diesel engines:

Brand	Caterpillar
Model:	C2,2
Serial No.:	SAJ00788 & JAW00181

The Contractor shall perform the following work:

- Perform work according to the manufacturers' procedures and specifications.
- Contact the Coast Guard representatives in the required time.
- Inspect valve clearances and adjust if necessary.
- Check the injectors.
- Change the oil and filters.
- Replace the air filters.
- Change primary and secondary fuel filters.
- Drain the coolant, perform a cleaning cycle and replace with new coolant.
- Clean the coolers (4) and verify he anodes.
- Inspect the (4) pump impellers.
- Verify the proper functioning of starters and alternators and as well, the power of the batteries.
- Inspect the glow plug.
- Check the plugs in the expansion tanks.
- Verify the high temperature sensor on the cooling water system.
- Verify the low oil pressure sensors.
- Perform an insulation test on the generators and perform cleaning as required.
- Use all OEM parts: the exchange system is accepted.

- Perform the adjustments and start-up and demonstrate that power output and overall operation are satisfactory and in accordance with the manufacturer's specifications.
- Have the technician perform an operational engine trial for one hour when the vessel is cleared of ice. Put the engine shall be set to 100 % of the load or as recommended by the chief engineer.
- Submit a written report indicating the different engine parameter values (RPM, OIL PRESSURE, WATER TEMP., EXH. TEMP., OIL TEMP., etc.) during final trials.
- Check all safeguards and record the values in the report.
- The Marine Safety expert and CCG representatives are required to attend the start-up and the final trial to verify the engine protections; notify them 48 hours in advance in order to allow them to visit the site.

6.13.1.4 – ACCEPTANCE OF WORK

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

6.13.1.5 DELIVERABLES

- The Contractor shall submit to the CCG representative two (2) copies of a full written report and in PDF format of the work performed, including all the parts that were replaced no later than five (5) days after completion of the work.
- The following information is to be included:
    - Date of work and date of report
    - Technician name
    - Description of work performed
    - A list of materials and all parts replaced or installed

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 the CG-03.

6.14.1.3 – TECHNICAL DESCRIPTION

The Contractor shall 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 *CG-03*" document.
- Conduct all tests between phase and ground. For circuits containing more than one phase, test each 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 the *CG-03"* document.
- For 120VAC distribution circuits:
  - Disconnect all devices connected to the circuit to be tested (anything plugged into an outlet).
  - Close all breakers on the circuit (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).
  - Note any anomalies observed in the starter, so that corrections can be made.
- A report of meghometric readings will be required. The report must be provided 1 day after the reading takes place. Following the report provided, the GC will indicate which reading is to be corrected.

6.14.1.4 – ACCEPTANCE OF WORK

Inspection

- All work shall be completed to the satisfaction of the Chief Engineer, the Vessel Maintenance Manager and the TC inspector.
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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 shall also send an electronic copy of the certificates to the Vessel Maintenance Manager no later than five (5) days after completion of the work.
- The report shall be made with the document "List of electrical circuits on the *CG-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

6.15.1 PORT ELECTRIC BILGE PUMP

6.15.1.1 – SCOPE

- Inspect, test, and certify the port side electric bilge pump.

6.15.1.2 – TECHNICAL DESCRIPTION

Bilge pump make: Flomax
Bilge pump model: Flomax 8, 2 in. in diameter

The Contractor shall perform the following work:

- Disassemble and inspect the bilge 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. Replace defective parts new, OEM parts and address this on 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. Replace defective parts with new, OEM parts and adjust 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. Perform 15-minute tests to demonstrate that the pump works properly once it is back in place. Ensure that tests show that the pump generates the required pressure.

6.15.1.3 – ACCEPTANCE OF WORK

Inspection and certification

- The internal inspection and tests shall be done in the presence and to the complete satisfaction of the CCG and the TC inspector. The Contractor shall contact TC about the inspections.
- All replaced parts shall be given back to the CCG representative.

6.15.1.4 – 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 its motor, along with any other relevant comments on the wear or general condition of the pump no later than five (5) days after completion of the work.

6.15.2 STARBOARD ELECTRIC BILGE PUMP

6.15.2.1 – SCOPE

- Inspect, test and certify the starboard electric bilge pump.

6.15.2.2 – TECHNICAL DESCRIPTION

Bilge pump make: Flomax
Bilge pump model: Flomax 8, 2 in. in diameter

The Contractor shall perform the following work:

- Disassemble and inspect the bilge 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. Replace defective with new, OEM parts and address this on 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. Replace defective parts with new, OEM parts and adjust the cost 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. Perform 15-minute tests to demonstrate that the pump works properly once it is back in place. Ensure that tests show that the pump generates the required pressure or flow rate above 150GPM.

6.15.2.3 – ACCEPTANCE OF WORK

Inspection and certification

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

6.15.2.4 – 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 its motor, along with any other relevant comments on the wear or general condition of the pump.

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